DOCUMENT RESUME

ED 264 784 HE 018 960

TITLE	Conference of University Administrators Conference Proceedings (12th, Surrey, England, March 21-23, 1985).
INSTITUTION	Conference of Univ. Administrators.
REPORT NO	ISBN-0-947931-01-5
PUB DATE	Mar 85
NOTE	63p.
AVAILABLE FROM	Conference of University Administrators, Publications Office, Room 206, Whiteknights House, The University, Reading RG6 2AH, England.
PUB TYPE	Collected Works - Conference Proceedings (021)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Administrator Responsibility; *College Administration; *Computer Oriented Programs; Educational Facilities; *Educational Finance; Foreign Countries; *Higher Education; Industry; *Management Information Systems; School Business Relationship
IDENTIFIERS	*Conference of University Administrators (England)

ABSTRACT

Conference proceedings for the Conference of University Administrators include summaries of conference sessions, along with Austin Pearce's paper, "The Needs of Industry: What Are They?" Sessions focused on: forming a university company, financial diversification, financial modeling, stock exchange investment and universities, funding of research, The Jarratt Study on University Purchasing Arrangements, the increasing need for internal audits, energy conservation in universities, building matters, the role of security, telecommunications, changing the administrative computer system, a modern admissions office, information systems and office automation, the growth of institutional word processing and personnel implications, the legal duties of university employees, judicial review of university procedures, university insurance (professional indemnity), qualifications for administrators, educational counseling and credit transfer information services, continuing education and cooperation, part-time degrees, promoting undergraduate admissions, medical and dental school administration, faculty administration, setting up an overseas liaison office, university publications, and technology transfer. (SW)

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Conference of University Administrators

Conference Proceedings

Surrey 1985

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CONFERENCE OF UNIVERSITY ADMINISTRATORS

The Conference of University Administrators (CUA) was established in 1973. It is a registered charity and exists for the public benefit to advance education by fostering the development of sound methods of administration of tertiary education in the University sector in the United Kingdom.

In furtherance of the above object but not otherwise CUA:

(a) arranges an Annual Conference for the exchange of ideas in the development of the administration of tertiary education with particular reference to the University Sector;

(b) provides a forum for discussion of current problems in tertiary education;

(c) encourages the development of branches in individual institutions to act as a link between members and the central organisation of CUA;

(d) issues publications from time to time in the furtherance of the objectives of the organisation;

(e) facilitates the exchange of information on administrative activities;

(f) establishes and maintains links with administrators in tertiary education overseas in order to further the interest of tertiary education internationally;

(g) stimulates training activities both by provision of specific training opportunities and by the monitoring of the training programmes and policies of other organisations.

Chairman

Mr S R Bosworth
Registrar
University of Salford

Further information is available from
the Secretary of the Executive Committee
Dr. D. Farrington,
Personnel Officer,
University of Hull.

ISBN 0 947931 01 5

ISSN 0144 3542

CONFERENCE OF UNIVERSITY ADMINISTRATORS

CONFERENCE PROCEEDINGS

University of Surrey, 21- 23 March 1985

Introduction by the Editor

The twelfth annual meeting of the Conference of University Administrators was held at the University of Surrey from Thursday 21 March to Saturday 23 March 1985. Some 500 delegates attended the conference. It was held on the University site, with the unique exception of the session addressed by Sir Austin Pearce, which was held at the Cathedral on top of the hill overlooking the University. The conference was managed by Brian Barnard and his colleagues. All the clichés which are used on these occasions apply without reservation and we are grateful to them all for providing the groundwork without which no conference can succeed.

I have selected those reports which I think would be of most value to readers, whether they attended the conference or not. Those sessions which are not reported were either practical and not easy to reproduce in a useful written form or had been given and reported in previous years. I have not reported the session on the Saturday morning when civil servants from the Treasury, the DES and the UGC were present to speak and answer questions. It was agreed that it should all be off-the-record and as what they said appeared in the next issue of THES and as we have now had both Jarratt and the Green Paper their pronouncements are, to use a possibly appropriate word, redundant.

Finally my thanks to all those who submitted copy to me, and to colleagues on the Publications Committee for their help.

Copies of these proceedings are available from Roger Clark, CUA Publications Officer, University of Reading. (See inside back cover)

Ian Jones University of Surrey

LIST OF CONTENTS

	Page
Introduction by the Editor	1
Conference programme and details of sessions	3
The needs of industry	11
Forming a university company	17
Financial diversification	19
Financial modelling	19
Stock Exchange investment	20
Funding of research	21
Jarratt and university purchasing	22
The increasing need for internal audit	22
Energy conservation in universities	23
Buildings matters	23
The role of security	24
Let the machine take the strain!	25
Telecommunications	26
Changing your administrative computer system	26
Towards a modern admissions office	26
Information systems and office automation	31
So the machines are friendly - what about the users?	33
Personnel implications of new technology	35
Good and faithful servants - the legal duties of university employees	37
Judicial review of administrative procedures	37
University insurance: professional indemnity and universities	37
Qualifications for administrators	39
Training the trainers	41
Educational Counselling and Credit Transfer Information Service	42
Continuing education and co-operation	44
Part-time degrees	45
Promoting undergraduate admissions	47
Medical and dental school administration	48
Faculty administration - myth or reality?	49
Setting up an overseas liaison office	49
Secondments and exchanges	50
Universities and their consumers - a guide to the guides	50
What are university publications for?	51
Management theory	52
Technology transfer	53
Reports on sessions sponsored by CUA Training Committee	58

CONFERENCE PROGRAMME

WEDNESDAY 20 MARCH

Introductory programme for overseas visitors

THURSDAY 21 MARCH

9.30 am	Plenary session for overseas visitors
2.00 - 2.30 pm	Chairman of CUA welcomes delegates
2.30 - 4.00 pm	Session 1 (groups)
4.30 - 6.00 pm	Session 2 (groups)
6.00 - 7.00 pm	Meeting of overseas correspondents
7.00 pm	Reception, dinner, entertainments
	Meeting of Executive Committee

FRIDAY 22 MARCH

9.00 - 10.30 am	Session 3 (groups)
11.15 am - 12.45 pm	Session 4 (groups)
12.45 pm	Executive Committee meeting with branch correspondents
2.30 - 3.45 pm	Session 5 (plenary) with Sir Austin Pearce
4.30 - 6.00 pm	Session 6 (groups)
7.30 pm	Conference dinner, entertainments

SATURDAY 23 MARCH

9.30 am - 12.30 pm	Session 7 (plenary) with officers of the Treasury, DES and UGC
	Annual General Meeting

Details of the group sessions are given below

CONFERENCE SESSIONS

SESSION 1 - Thursday 21 March: 2.30 - 4.00 pm

101	Committee servicing (1)	M A Joynson, Senior Assistant Registrar, UC Cardiff
		J R Wood, Academic Registrar, E Anglia
*102	Secondments and exchanges	Chairman: Gerald Burke, Assistant Registrary, Cambridge
		Ruth Stubbersfield, Administrative Assistant, Manchester
*103	Universities and their consumers: a guide to the guides	Chairman: Philip Radcliffe, Director of Communications, Manchester
		Speakers: John Izbicki, Education Correspondent, Daily Telegraph; Brian Heap, author of "Degree Course Offers"
104	Boosting university income	R A Footman, Director of Information and PR Services, Edinburgh
		J G Kelly, Secretary and Vice-President for Administration, Regent's College, London

105	Motivation of staff (1)	H Livingstone, Lecturer in Administration, Strathclyde
*106	Continuing education and co-operation (1)	Chairman: David Warner, Senior Assistant Registrar, Warwick
*107	Faculty administration - myth or reality?	B A Collins, Assistant Registrar, Nottingham
108	Merging a university and a polytechnic	J A Hunter, Secretary, Ulster
*109	Let the machine take the strain!	N A McHard, Assistant Secretary, Southampton
		C A L Swann, Assistant Registrar, Southampton
*110	Technology transfer (1)	P J Luther, Deputy Secretary (Finance) and Accountant, Surrey
		C J Corin, Mathisen, Macara & Co
		Michael Coombes, Travers Smith, Braithwaite & Co
*111	Financial diversification	B L Claxton, Finance Officer/Deputy Administrative Secretary, Institute of Development Studies, Sussex
*112	Good and faithful servants - the legal duties of university employees	Diana Kloss, Senior lecturer in Law, Manchester
113	Can I quite you on that?	F Albrighton, Information Officer, Birmingham
*114	Energy conservation in universities	R S J Saxton, Energy Manager, Imperial College
115	The UGC's strategy advice and university management	J H Farrant, Senior Assistant Secretary, Sussex
116	Payroll and associated problems	W S North, Senior Assistant Finance Officer, Hull
117	The Data Protection Act 1984 (1)	J S Wilcox, Assistant Registrar, Loughborough
		S Thorne, Assistant Registrar, Reading
*118	Financial modelling	J Bayton, Assistant Accountant, Surrey
		B Jones, Deputy Accountant, Surrey

SESSION 2 - Thursday 21 March: 4.30 - 6.00 pm

201	Committee servicing (2) Continued from 101	M A Joynson, Senior Assistant Registrar, UC Cardiff
		J R Wood, Academic Registrar, E Anglia
202	Time management (1)	J F D Lauwerys, Senior Assistant Secretary Imperial College

*203	Open forum on buildings matters	Chairman: J W Diplock, Director of Works, Surrey
204	Development of the University of Buckingham	S P J Ellis, Registrar S J M Willis, Admissions Officer, Buckingham
205	Motivation of staff (2) Continued from 105	H Livingstone, Lecturer in Administration, Strathclyde
*206	Continuing education and co-operation (2) Registrar, Warwick Continuation from 106	Chairman: David Warner, Senior Assistant
208	The third age - preparation and planning	J Pazowski, Senate House Training Officer, N Ryan, Superannuation Officer, London
*209	Converging systems: information systems and office automation	R W Ewart, Head of Department of Computing Science, Ulster
210	Technology transfer (2) Continued from 110	P J Luther, Deputy Secretary (Finance) and Accountant, Surrey
*211	The role of security	Neville Gladstone, Assistant Bursar, Bath H Price, Chief Security Officer, Surrey J Bayton, Assistant Accountant, Surrey N A McHard, Assistant Secretary, Southampton
*212	Judicial review of university procedures	Margaret Brazier, Senior Lecturer in Law, Manchester
*213	Stock Exchange investment and universities	P J Taylor, Lecturer in Accounting and Finance, Manchester
*214	Jarratt and university purchasing	R I Hunter, Southern Universities' O & M Unit Rapporteur: J Krasocki, NW Universities' O & M Unit
*215	Promoting undergraduate admissions: marketing or counselling?	Chairman: John Hayward, Academic Registrar, Hull Speakers: Joanna Motion, Information Officer, East Anglia; Richard Lister, Assistant Registrar, Hull
*216	Funding of research	David Holmes, Academic Secretary, Liverpool Michael Wolff, Research Officer, Technical University of Berlin
217	An academic's view of university administration	I M H Jones, Lecturer in Educational Management, Surrey

SESSION 3 - Friday 22 March: 9.00 - 10.30 am

301	Assertion theory (1)	M G Jinkinson, Assistant Secretary (Personnel) St Mary's Hospital Medical School G Trevett, Senior Assistant Registrar Brunel
302	Time management (2) Continued from 202	J F D Lauwerys, Senior Assistant Secretary Imperial College
303	Interviewing skills (1)	P D Guildford, Senior Personnel Officer, Open
		P Harding, Careers and Student Services Adviser, Cranfield
304	Self-development for administrators	F Ball, Personnel Officer, St George's Hospital Medical School
305	Study visit to North America	P H Gayward, Finance Officer, Liverpool
306	University ceremonies	J R Wood, Academic Registrar, E Anglia
*307	Telecommunications	B B Mayes, Estates and Buildings Officer, Sheffield
308	Mathematical techniques in planning	A E F Gick, Assistant to the Vice-Chancellor, Aston
309	Printing and duplicating	R L Story, Printing Manager E North, Data Processing Officer
		R Spink, Chief Programmer, Data Processing Unit, Sheffield
310	Public speaking made easy (1)	B G Rawlins, Director of Information Services, Keele
311	The role of security (2) A visit to the Surrey Police Headquarters	
*312	Personnel implications of new technology	John Davidson, Personnel Secretary, Imperial College
313	Purchasing - an insight for the non-specialist	G M Beard, Purchasing Officer, Liverpool
*314	Setting up an overseas liaison office	D P F McCallum, Assistant Registrar, Sheffield
		M Stewart, Vice President, Lawrence University, Wisconsin
*315	Ethical aspects of university administration (1)	P W A West, Deputy Registrar, Strathclyde H A Lewis, Senior Lecturer, Department of Philosophy, Leeds
316	Industrial Liaison (1)	J V Reed, Director, Bureau of Industrial and External Liaison, Surrey
*317	Changing your administrative computer system	J J McCloy, Manager of Data Processing Services, Belfast

SESSION 4 - Friday 22 March: 11.15 am - 12.45 pm

401	Assertion theory (2) Continued from 301	M G Jinkinson, Assistant Secretary (Personnel) St Mary's Hospital Medical School G Trevett, Senior Assistant-Registrar, Brunel
402	Job evaluation and its applications in universities (1)	R Butler, Public Services Division, Hay-MSL Management Consultants
403	Interviewing skills (2) Continued from 303	P D Guildford, Senior Personnel Officer, Open P Harding, Careers and Student Services Adviser, Cranfield
*404	Qualifications for administrators	John Lauwerys, Senior Assistant Secretary, Imperial College
405	Student problems for the Administrator	J C F Hayward, Academic Registrar, Hull
*406	Training the trainers Workshop B follow-up	Cecily Giles, Assistant Secretary, Edinburgh, CVCP Administrative Training Officer
407	The university year abroad: dynamic enhancement of the curriculum or academic mirage?	J Platt, Rector and Executive Vice-President, Regent's College, London
*408	Towards a modern admissions office	Bruce Shutt, Associate Vice-President for Student Affairs, University of Georgia T J Mead, Senior Assistant Registrar, Southampton
*409	Medical and dental school administration	Alun Roberts, Registrar and Secretary, University of Wales College of Medicine
410	Public speaking made easy (2) Continued from 310	B G Rawlins, Director of Information Services, Keele
411	The role of security (3) Visit to Surrey Police Headquarters continued	
412	Staff management workshop	F Ball, Personnel Officer, St George's Hospital Medical School D Peacock, Industrial Relations Officer, London
413	The irresistible rise of NAB	A C Brook, Assistant Registrar, CNAA
*414	University insurance: professional indemnity and universities	Chairman: P J Hayward, Administrative Officer, Sheffield Speaker: K A C Kidd, Professional Indemnity Underwriter, Sun Alliance Insurance Group

415	Ethical aspects of university administration (2) Continued from 315	P W A West, Deputy Registrar, Strathclyde H A Lewis, Senior Lecturer, Department of Philosophy, Leeds
416	Industrial liaison (2) Visit to RAE Farnborough continued	
*417	Part-time degrees	Sue Boswell, Senior Assistant Registrar, University of London Goldsmiths' College

SESSION 6 - Friday 22 March: 4.30 - 6.00 pm

601	Audio-visual presentation skills	F Ball, Personnel Officer, St George's Hospital Medical School
602	Job evaluation and its applications in universities (2) Continued from 402	R Butler, Public Services Division, Hay-MSL Management Consultants
603	CUA training questionnaire	S Hughes, Administrative Assistant, Bradford M A Joynson, Senior Assistant Registrar, UC Cardiff H Niven, Senior Assistant Registrar, Open
604	Student counselling	E Noonan, Head of Counselling Service, City
*605	The increasing need for internal audit in the university sector	J Eves, Chief Internal Auditor, Abbey National Building Society
606	Educational Counselling and Credit Transfer Information Service	J Taylor, Snr. Educational Liaison Officer, ECCTIS
607	Universities and the arts	R W Stannard, Senior Assistant Secretary, Southampton
608	The Polytechnics Central Admissions System: is the binary line disappearing?	M A Higgins, Chief Executive, PCAS
*609	What are university publications for?	Joanna Motion, Information Officer, East Anglia
610	Public speaking made easy (3) Continued from 310 and 410	
611	Resource allocation: three case studies	J H Farrant, Senior Assistant Secretary, Sussex
*612	Management theory	I M H Jones, Lecturer in Educational Management, Surrey
*613	So the machines are friendly, but what about the users?	J D Hawthorne, Assistant Registrar, Sheffield
*615	Forming a university company	Ken Wallace, Company Secretary, Vuman Ltd, Manchester

616	Industrial Liaison (3)	J V Reed, Director, Bureau of Industrial and External Liaison, Surrey
617	The Data Protection Act 1984 (2)	S Thorne, Assistant Registrar, Reading J S Wilcox, Assistant Registrar, Loughborough
618	Everybody wants it	T F Goodwin, Director of the Computing Unit, Surrey

* Reported in the Proceedings

12

THE NEEDS OF INDUSTRY - WHAT ARE THEY?

Sir Austin Pearce, Chairman of British Aerospace

This title alone contains at least one other question in it. It all depends what you mean by industry and to that there is a multitude of answers. The general title of industry covers companies ranging in size from those with a turnover of just a few thousand pounds per annum to those with a turnover of a few billion. The company may be in an extracting business such as oil, manufacturing such as aerospace, or a service industry such as banking and as I have been involved in all three of these industries, let me take my experience in them as a basis for my comments.

In all of them I would suggest that the biggest problem they have is people. The cost of the human resource in general is one of the largest cost centres and one of the most difficult to control and to determine. The human unit is also the most unreliable and unpredictable. Now this seems rather a damning indictment until one puts along with it the fact that the human unit is the most complex, adaptable and productive unit, if used properly, of all industrial resources.

So what skills is industry looking for? You will know as well as I that each industry and even each company looks for something different. This fact is I think borne out by the perceived characteristics of the people who actually work in the three major oil companies. Esso has been described as the engineers. With every problem out comes the slide rule or the pocket computer and everything is converted into figures or charts. Shell are the diplomats and Shell is one of the very few truly international companies as distinct from a company which is involved in international business. BP are the gentlemen amateurs, but probably the world's most effective company in discovering oil. Of course companies change and the above description is some years old, but I think it demonstrates my point that there is no one answer to the question.

But might it be possible to create something approaching one answer? The French seem to have done and it looks very much as if the Japanese have too. So can we. Regrettably I have to say that I doubt it, at least not for some time, and the reason I believe is bound up with the very limited mobility between the three occupational streams of government service, the professions, in which I include commercial services and industry whether it is manufacturing or extractive. I have been fascinated in my career by the number of top French and Japanese industrialists I met who have had executive positions in all three of those streams I have mentioned; in most cases in big industries they are in a clear majority. In the United Kingdom the number of civil servants who transfer to line industrial management is minimal. There is no shortage of non-executive directors or non-executive chairmen, but very few executives and an even smaller number of industrial executives have actually joined the civil service. Attempts have been made, with one particular effort being made quite recently in the Ministry of Defence, but the bureaucratic machine has been very effective in slowing progress to an absolute crawl and very little change has taken place so far. I hope that situation is going to change.

Industry itself cannot be blameless in this particular saga and to me the problem is usually created by the inability and unwillingness of management to plan more than one move ahead. In my view to suggest to any individual who has any intelligence that he or she should move from one career to another and just hope that there will be a return job available at the appropriate time is just plain stupid. Changes in career patterns should be with a particular object in mind and should be planned with great care at least two steps ahead with a pull-back position if the programme goes wrong. It is management who created the move in the first place

and they must take the responsibility for dealing with the results, good or bad. But to return to my theme. With three streams created I suggest by our history and by our social prejudices, to whom does the university system turn for its guidance? On the face of it you could turn to the Department of Education and Science but then the prime industrial contacts are spread between the Department of Trade and Industry, the Department of Energy and the Department of Transport and it is highly unlikely that education will get any really coherent, let alone consistent view. So what about the employers' organisations such as the CBI or the Chambers of Commerce? Possibly a little better, but if one is privileged to listen to the debate in their committees, the range of views is amazing, between the large and the small companies, between the high tech and the low tech companies, the sunrise industries and those which have at least reached high noon. It is also, I have to say, not all that different when one starts discussing these types of problems in the trade associations and some of the combined learned bodies.

So where does this leave us? It is not particularly helpful to be negative and knock down everything. What is the constructive and positive approach? I suggest one answer is for the contacts between the universities and industries to be more regional and local. We have to recognize we are dealing with people and if we can take a lead from the industrial relations book it has tended to be much more successful when tackled on a limited area basis than centrally. Lines of communication are shorter and tend to be better and individuals tend to meet rather than conduct their activities through correspondence.

Now there are of course snags. The regions are not all equal in size or in industrial concentration, in financial viability and other factors which I am sure you can all work out for yourselves. There could be a tendency to be parochial or somewhat inbred with limited effort to attract students from elsewhere or to provide students for companies outside the region. It could also act against the development of centres of excellence. So what I have suggested is not the panacea for all ills if universities are going to find out what industries are looking for and produce the graduates with the right disciplines at the right time, but I suggest the shorter the communication loops the greater the chance we will get things better than they are today.

It has to be recognized that in some respects industry has a very short time horizon. It may be involved with projects which take years to come to fruition, but it is judged by its performance on a yearly, or half-yearly, or even quarterly basis, whereas the production of a graduate takes at least three years after the curriculum has been decided, the staff has been found and also, last but not least, the money has been granted to launch the course. Now reconciliation or reduction of this time differential is a key to matching supply and demand, so anything which can be done to reduce it will, I believe, be to the benefit of both universities and industry. Where however does this leave the Department of Education and Science and the UGC? In some respects it puts them in an easier position and at the same time puts pressure on them for quicker decisions and that usually means less bureaucracy and lower costs of administration.

Now neither of these will be particularly welcome ideas to those who administer the present system, but it would improve the educational value of every pound of the taxpayer's contribution. I would not be surprised to hear that what I have been saying is already practice in some regions of the country, probably many, but the question is whether the thoughts and ideas get to the centre and, more important, are recognized, also whether local industry welcomes and supports this type of initiative.

Now this recognition and understanding of what we are trying to achieve is a very common problem. I well remember the announcement of the UGC cuts of 1981. I happened to be lunching with the Secretary of State for Education that particular day. Just before he went on television he repeated to me the government's philosophy of encouraging technical education and meeting the needs of industry, and I felt very encouraged, until I saw where the cuts had fallen. I just wondered if at that lunch we had even been talking about the same problem.

What is industry's problem and what is the scale of it and how can it be corrected? Regrettably I only have a very limited amount of data and this demonstrates the first problem or perhaps set of problems. Too many companies think of their requirements just before they start recruiting and sometimes with no clear view of what they will do with the graduates if and when they get them. As pressures grow to reduce overhead costs to become more competitive, to get the profit today rather than tomorrow, this problem may get worse and some companies will need help and the local organisation is best placed to do this, if it wants to. The second part of the problem is that some companies are reluctant to give out any information and some of the information I am going to give you now I have been given on the basis that, if I use it, no company names must be mentioned. This just highlights the problem of determining the scale of what we need to achieve. So let me quote some of the comments made and as the extracts were taken from a variety of sources, and I have deliberately mixed them up, I trust I will breach no confidences. First let me quote some views on recruiting itself.

(A) We are shortly trying to recruit highly qualified personnel of various disciplines by national advertisement. This will be the first time in a number of years because we have been contracting and therefore have been able to satisfy most of our needs from the University output alone. As such I am unable to provide you with useful facts or figures although I can endorse your perception of specific scarce skills where we expect to encounter difficulties. We are nervous about the success of our attempt knowing that on remuneration terms we are able to attract freshly graduated engineers, but the experienced man of five years may well be out of our financial reach.

(B) Advertisements seem to attract little or no response. A recent advertisement in the Daily Telegraph for a microwave engineer produced no replies. The cost of that advertisement was in the region of £7,000.

(C) I further believe there is unwarranted concentration currently on the provision of new postgraduate courses. This is not an area of real need.

Now some views on how short the companies are.

(D) Our current vacancies stand at 150 compared with 140 a year ago, but some of these so-called vacancies represent recruitment targets, which make some allowance for anticipated losses. Graduate turnover is in the range of 10%-12% per annum. In addition to the above vacancies we have a recruitment target of 95 new graduates.

(E) Average turnover of all engineering staff is approximately 8% per annum, but turnover of software engineers and system integration specialists can be as high as 30% per annum. Losses include young newly-trained specialists as they are often recruited away from the aerospace business.

Now what sort of disciplines are they looking for?

(F) Prime areas of need - I am talking about the aerospace industry - are avionics, stress, aerodynamics, aircraft systems, electronics and specialist design. There are difficulties in recruitment even where we offer training in

new technologies, especially in the graduate area, where the output of academic institutions is not balanced with the needs of industry

(G) Our particular requirements for experienced graduate engineers are as follows: electronic engineering, including digital and analogue circuit design, ground test systems, factory automation and hardware interfacing techniques. Systems engineering, including electromatic compatibility, mathematical modelling, servo systems and data transmission systems. Computing, including systems analysis, networking and real-time software for avionic systems. Structural and stress engineering, are currently short of 60 engineers. Other problem areas are software and systems engineering. It is difficult to recruit good production engineers because of the lack of glamour in technology. Graduate engineers are in critically short supply in the following disciplines: electronics, microwaves, software, production with sound, practical experience. We conduct extensive training to ameliorate the shortage, eg convert physicists to electronics, training A levels to software support roles, train microwave technicians, etc.

(H) We meet the bulk of our needs for qualified personnel by in-house training of recruited graduates and sponsored students. We currently have around 1000 qualified scientists and engineers in R and D, production, management services, quality, etc. We see an increasing need for qualified staff and the company's planned graduate intake for 1985 exceeds 80 compared with an average intake of 25-30 in recent years. Retention is a serious problem with graduates having two years plus experience. In common with other large organisations we train then lose a high proportion. During the last five years we have lost around one third of all our recruits.

British Aerospace, my own company, has spent some £2M in 1984 in advertising for graduates, with only very limited success. Personnally I am very sceptical about the value for money from advertising. I would rather spend the money on training, but is the packaging there which will attract my management? There are many doubts in industry about training facilities.

I could go on with a lot more quotes but I would just be repeating what you have already heard. If however I add together the figures in all the replies I have seen, it adds, for the aerospace industry, to something like 1,500 engineers short at this particular point in time and this is an industry which employs about 200,000 people in total. Now that is not a very high proportion of the total staff, but it is running close to 10% of the total graduate population in that industry. Now I am sure you will not have been surprised to hear the figures of 8% per annum wastage for graduates and up to 30% per annum wastage for systems people. In the aerospace industry undoubtedly the emphasis is moving away from a mechanical bias towards an electronic bias. There is however a shortage of aerodynamicists and stress engineers and this, too, is not at all that surprising. We have today only one major airframe manufacturer in the United Kingdom, British Aerospace. There is of course Shorts, but a significant part of their work is sub-contracting from such companies as Boeing, who have their own design staff. It is also probably true that between now and the end of the century, there will be at most only two new airframe designs, so what is the future for the young aerodynamicists who are being trained today? Are they going to see the stop-go feast-famine history of the aerospace industry of the sixties?

This demonstrates just another of the problems met when trying to predict industry's needs and that is the speed of change of the market, both in volume and performance requirements. Economic situations change, market interests

change. How many of you would have predicted for example, just say two years ago, the sudden downturn in the home computer market, which has taken place in the last two or three months? Who would have predicted the massive reduction in car requirements in the United States or the great infiltration of Japanese products not too many years ago.

These factors, and many more, clearly affect the demand for, and the disciplines required, in the work force, and industrial management is not all that good at predicting these changes, the more so when most of their time is spent on the problems of today rather than tomorrow. The companies which have an above average record in predicting and adapting to the future, tend to be those which are prepared to consult with, and be advised by, outside organisations, and quite often these are the professional consulting bodies or the business schools. It is my belief that there are significant opportunities for the academic world to have a great influence in this field, but the initiative has got to come from the universities or the polytechnics and they must not get too frustrated too soon. I know it will be far from easy, but nothing will happen if a start is not made.

Comparable problems can be seen today in the oil industry. In the early 70's civil structural engineers dealing in concrete were desperately needed for the building of those massive 360,000 ton North Sea production platforms. Today I am pretty sure every single one of the United Kingdom fabrication yards based on concrete is shut down. In the years immediately prior to the 1973-74 oil crisis, Esso in the United Kingdom, was planning massive orders for the 250,000 ton LCC's. I alone was involved in the contracts of eleven of them. Today I believe Esso UK has only got two left. In the expansion period of the late 60's refineries were springing up all over the place sucking the mechanical and chemical engineers into Milford Haven, the Isle of Grain and many places in Europe. Today virtually all of those refineries are scrapheaps, if they exist at all. Banking too is going through its own revolution. Progressively more and more of the data and information is going on to tape rather than paper and instead of the manpower-intensive clearing system, we have now got the new automatic clearing system covering the whole country; in effect a highly complex data transmission system. The plastic card is with us and today one often sees queues outside a bank waiting for the automatic dispenser, while inside the teller has few, if any, customers and many of the positions are closed.

Now in the time available to me for the preparation of this address, I have not been able to obtain anywhere near enough data to quantify the needs even of the three industries I have described, nor to be more specific about the disciplines needed, but all are indicating shortages and this is borne out by some of the CBI surveys. One thing is clear, companies are recognizing the need to improve the quality of management at all levels and in particular to make them more numerate. However, this does not decrease in any way the need to understand the business, and so on the other side experience is vital. Many of the quotations I gave emphasized the shortage of experienced personnel and in industrial terms this includes people who have had around only two years or so of experience.

All these changes I have been talking about mean two things. The first is that industry is requiring new and different skills, but is also, in general, needing fewer people per production unit and it is this I think which is raising a major problem for the United Kingdom. The majority of companies of any size in this country have a wide age distribution from, say, twenty to sixty years. Within that population there are many people in their thirties with ten years of experience and they know the business, but they have not been trained in the latest techniques. Unless they can be retrained or unless there is a major increase in business activity, many of them will become redundant. Making them redundant is itself expensive. Redundancy

loses all the investment which the company has put into the individual in training and experience, and as the individual probably has a family, the cost of redundancy to the state is also quite significant. So for purely economic reasons this nation has a major justification for retraining the individuals I have mentioned. It also has major social reasons which are equally important.

Who is going to train these individuals? You might remember in my quotations several which referred to in-house training and the shortage of experienced personnel. But the training of the thirty year old is however a much more difficult activity than training a young, virile twenty year old with no family ties and no family worries. Such training requires first-class teachers and I do not believe that there is a large number of such experts within industry, but they are there in the universities. Industry is however unlikely to release their experienced managers for a two or three year course and the courses have got to be tailored very much to local needs. I am sure you will realise, too, that where there is a family, the wife is also not likely to take very kindly to her husband being miles away for months on end.

If we put these facts together we see a group of people who only can be released from their jobs for say three months, who are somewhat out of the habit of learning and who, because of family ties, cannot be away from home for too long spells. Therefore quite a different type of course is required from that given to the newly arrived undergraduate and there will not be that degree of communality of training which pupils get by taking their A levels. It is therefore, I suggest, a much more complex problem, which will probably require quite different techniques from those normally used. Now I know that much work has been done in some of the universities. I also know that the majority of industries do not really know what is available. Yet this is so much a matter of communication and selling the wares available. So back I come to my thesis that a much closer bond at the local level between companies and universities is one of the mechanisms for the better matching of skills or needs.

Well, the answer is by a lot of hard work. Having said that I am sure there will be some in the audience who can tell me they have tried it and it has been a failure. That would not surprise me in the slightest. For such a concept to succeed there has got to be an enthusiastic academic who connects with a receptive industrialist. It has to be recognized that for most industrialists today training is not the top item on his priority list for action, nor is it top of the pops for spending. The academic world has got to take the initiative and sell its wares to the industrialist. Do not expect the industrialist to be selling to you; he's got enough problems selling his own products.

I know there are plenty of industrialists and academics who will want no part of the suggestions I have made. The arguments are not particularly intellectually exciting, nor are the results likely to justify any academic acclaim. I also know that there are many industrialists who are looking for help, but whose criterion of judgement will be: will it work. That is one of the fundamental questions, which any good industrialist will ask and is one which will only be answered by a first class academic mind.

What then do I conclude from these remarks? There is today in a variety of industries a shortage of those people with the necessary electronic/systems training and in particular there is a shortage of people with experience. There is however no shortage of qualified technical personnel. They just have skills which are in surplus, but many of them are capable of being retrained. The problem however is not a uniform one across the country. Some places have severe shortages, others have very little and the lack of mobility of individuals in the

United Kingdom accentuates that problem. Many industries are not good at predicting early enough the sort of people required to allow the academic world to create the new courses and produce the new graduates.

With the amount of effort being expended in this area today, we should anticipate that the current problem will be solved eventually, but that will take time and the question is: how do we get from here to there. That, I suggest, will be most effectively achieved by a closer local liaison and relationships between the industrial world and the academic world. I suggest that the prime drive and initiative must come from the universities. The results will not come quickly nor easily and they will demand some national rethinking of what can be done and how. But surely that is the sort of thinking we should expect from universities. I think I can almost guarantee that for those who are prepared to try, it will initially be as frustrating as it possibly can be, but any success I suggest can open up a new vista and a new challange of educational endeavour.

FORMING A UNIVERSITY COMPANY

Ken Wallace, Company Secretary, Vuman Ltd., Manchester

Ken Wallace introduced this session by describing the history of Vuman Ltd., a company wholly owned by the University of Manchester, which was established in 1981 to undertake commercial exploitation of the University's research and expertise.

Capital Structure

Having been established with a share capital of £100, Vuman now had authorised share capital of £500,000, of which £200,000 was issued and fully paid.

Management and Organisation

Vuman was organised into four separate divisions: Lasers, Robotics, Industrial Control Systems and Liquid Crystals. In addition, Vuman had two wholly owned subsidiary companies, Medeval Ltd. and Vuman Computer Systems Ltd., and one associated company, Visual Machines Ltd.

Vuman's Board of Directors comprised three executive and three non-executive members. The central management team of a Chief Executive, Company Secretary, Management Accountant and support staff provided bookkeeping, payroll, personnel and office services for Vuman and its subsidiaries. Marketing and day-to-day trading activities were handled at divisional or subsidiary level.

Trading Activities

Vuman began trading in April 1982 as an authorised dealer for the ACT Sirius microcomputer, supplied in the first instance to University departments. Vuman was now a registered dealer for the Apricot microcomputer and provided a wide range of hardware and software to more than 1,000 customers in the U.K. and overseas. Vuwriter, a scientific word processing package for use on microcomputers, had been a unique product when first developed in conjunction with the University Barclays Microprocessor Unit. A subsidiary company, Vuman Computer Systems Ltd., had been registered in August 1984.

Vuman's other subsidiary, Medeval Ltd., was set up in April 1983. Based on work done in the University Department of Pharmacy, Medeval engaged in the testing of established medicines on healthy volunteers.

The four divisions of Vuman were concerned with the development and commercial application of lasers, robotics, industrial control systems and liquid

crystals. All these activities were based on work done initially in University departments.

Vuman was a 25% shareholder in Visual Machines Ltd., a company using image processing technology. Vuman's turnover in the latest full year of operations (to 31st July 1984) had been £1,060,000, producing trading profits of £63,000.

Relationship with the University of Manchester

Although the Chairman of Council and Vice-Chancellor were initially appointed directors of Vuman it had subsequently been decided to separate the functions of University Officer and Officer of the company. The University now had no formal representation on Vuman's Board of Directors, although the Vice-Chancellor and Director of Finance attended board meetings by invitation.

Vuman transferred its profits which would otherwise be liable to corporation tax to the University under a Deed of Covenant. By using this arrangement neither the company nor the University was liable to tax on such profits.

Vuman employed four members of staff on secondment from the University, in addition to 63 direct employees. The company was the industrial partner in two CASE studentships based at the University and was financing a number of University-based research and development projects.

Discussion

The discussion which followed centred on the relationship of a university to its subsidiary company and the problems which university administrators might experience in getting involved in the formation or management of a university company. It was suggested that universities are not organised to meet the requirements of a commercial environment in the areas of support services, terms and conditions of staff appointments and the type and frequency of management information provided. It was noted that whilst a company remained wholly-owned by its parent university the normal commercial incentive of an employee share scheme could not be used.

Contributors discussed the problems of gaining acceptance within the academic community of the concept of a university company. The question of whether conflicts of interest or policy might arise between a university and its commercial arm was discussed, including the desirability of giving exclusive exploitation rights to a university company.

FINANCIAL DIVERSIFICATION

B L Claxton, Finance Officer/Deputy Administrative Secretary, Institute of Development Studies, Sussex

The session, attended by 9 participants commenced with a short video presentation which described the work of the Institute of Development Studies (IDS) at Sussex, and its role as a national centre concerned with Third World Development. There followed an account of events since 1979 when, as a consequence of changes in Government public expenditure policy, Institute financing arrangements underwent radical alteration. IDS's response to cuts had been a packet of measures intended to maintain the scope and size of the organization through financial diversification (i.e. by identifying and developing revenue-generating potential) and by cost savings. Measures included a time-based workpoint system for encouraging, regulating and monitoring academic involvement in income-earning activities, modifications to contracts of employment, and staff incentive schemes. The presenter also described techniques adopted by the administration for dealing with organisations wishing to commission IDS personnel for particular assignments, and methods of calculating fees. Management objectives of the Institute were still in a state of evolution and whereas financial performance in recent years had proved remarkable, emphasis has now switched to the need for long-term programme support upon which the IDS's reputation as a research organisation depended. Conclusions drawn by those present suggested that whilst the scale and organizational complexity of Universities ruled out any direct comparison with IDS, certain measures were capable of being exported and reproduced in other situations.

FINANCIAL MODELLING

Chairman: B Jones - Deputy Accountant (Finance)

Speaker: J Bayton - Assistant Accountant

The object of the session was to demonstrate the techniques used in the Finance Department at Surrey to solve a particular financial modelling problem.

The problem concerned the provision of budget statements and reports for use by the Estimates Committee and Heads of Department giving staffing (costs and numbers) and recurrent allocations. These reports cover five years including the previous years actuals and current and subsequent years estimates and plans. As decisions on staffing changes etc. are made by the Estimates Committee, the original data requires amendment, updating and consolidating in Departmental, Faculty and University totals.

Initially this process was carried out manually, handwritten statements being produced, copied, circulated and amended. This was a tedious and laborious task as accuracy was essential. Although it was obvious that part of the exercise could be transferred to a conventional spreadsheet, this was not the ideal answer because the available software was unable to cope with the production of the consolidated statements required.

At this stage it was decided to use a large software package (FCS 'Decision Support' System) from EPS Consultants which is intended for use on large 'mainframe' computer installations and accessible via terminals.

The appearance of an FCS display on screen or paper output is similar to that of a spreadsheet, but the design and programming of an FCS system is more complex

than that of a spreadsheet. For instance FCS allows for input from a number of sources operating within a hierarchical structure, so that results can be calculated and displayed at several levels before being passed 'up the line' for summarisation, further calculation and display as required.

Spreadsheet construction is undertaken on a 'Cell by Cell' basis, entering either data or logic to the appropriate locations as you go along. This allows the sheet to be physically built up on the screen before you.

The main feature which FCS shares with spreadsheet software is a fast up-dating process to provide revised results from changed data. FCS is by no means instantaneous; speed of up-dating will depend upon the number of changes to be made which in an extensive network of sub-sections could be considerable, but compared to manually amending a budget covering say 30 academic departments, a delay of 10-15 minutes is quite tolerable.

The Consultants' own publicity material declares that FCS can be used to help the planner or analyst solve all types of planning, information and resource problems, e.g. investment appraisals, long term plans, budget preparation and review, consolidations, marketing models and financial information systems. It can also be used for more mundane tasks of preparing reports and programming ad hoc applications.

Surrey University is in the first stages of developing the use of FCS; for 1984/85 it is being applied to the University's annual budget as well as being considered for use by commercial units and newly formed companies within the University.

The use of FCS was demonstrated with a simple example in which the budgets for a fictional research institute within a University over a period of three years were displayed. These included the annual budgets, budget summaries and balance sheets for two research units and one administrative unit making up the hypothetical institute. In the example given, one of the budget statements of research units anticipated a deficit in year 2 which would increase substantially in year 3. Plans for improving the situation were evaluated and values were entered to the system. The revised report then displayed showed the potential position after three years if the plans were implemented.

STOCK EXCHANGE INVESTMENT AND UNIVERSITIES

P J Taylor, Lecturer in Accounting and Finance, Manchester

Most universities and related institutions engage in investment activity of some kind. Endowment funds, pension funds, and unused balances are some of the sources of invested funds. The reasons for investment will vary with particular sources of funds and across institutions but may be summarised as the prudential employment of financial resources. Recent financial stringency, coupled with the broader effects of inflation, has enhanced the importance of investment activity to university finances. The tendency for universities to commit resources to commercial activities is evidence of a broadening of the scope of investment policies. However, investment on the Stock Exchange remains the most important medium.

This session reviewed the main issues of concern in Stock Exchange investment under the following headings:

1 The evaluation of the constraints upon investment policy, including legal (e.g. the terms of endowment funds), fiscal (tax position), the need for

particular types of return (e.g. regular cash flows from dividends, or capital appreciation), attitude to risk, and non-financial factors.

2. The selection of securities for investment by fundamental analysis (valuing shares based on estimates of their future earnings), technical analysis (charting share price behaviour), or the application of principles of portfolio *theory*.

There followed a detailed review of the University of Manchester's investment policy by Ms. Paulina Lubacz of that University's Finance Department. This covered the source of the University's investment funds, the investment policy adopted, the general characteristics of the portfolio, and the University's decision making process.

FUNDING OF RESEARCH

David Holmes Academic Secretary, Liverpool

Michael Wolff Research Officer, Technical University of Berlin

David Holmes introduced the session by giving some background about the national picture in regard to selectivity. An account was given of the principal recommendations of the Merrison Report of 1982, the Muir-Wood and Morris Reports of 1983, the UGC Strategy document of September, 1984, the SERC Report of August 1984 on the Support of Research Grants, the ABRC document 'Scientific Opportunities and the Science Budget 1984' and the SERC Report on the Needs of Engineering. Reference was also made to the Annual Review of Government Funded R and D 1984, the Royal Society Investigation into the Health of Basic Science and the IHME Study of the Development and use of Performance Indicators.

A description was given of various mechanisms in use or contemplated for the funding of research at Liverpool. These included

(i) The use of the Research Committee for pump-priming grants

(ii) Selective funding by reference to outside support, through the recurrent and equipment grant to departments

(iii) Selective funding by topic of research

(iv) The use of schemes such as Research Fellowships or studentships, or equipment grants to make matching or top-up contributions to help attract external funding

(v) Selective funding to interdisciplinary areas of research

(vi) Internal funding of a-rated, but rejected, projects by Research Councils

Michael Wolff gave a broad account of the various schemes in operation at the Technical University of Berlin for the internal support of research - research initiative projects, interdisciplinary research projects, university-wide focuses of research and supplementary internal aid for externally funded projects.

A lively discussion ensued about the role of Research Committees in various universities, the degree of selectivity and priorities assigned to particular research areas and the difficulties of institutional decision making in this area.

JARRATT AND UNIVERSITY PURCHASING

Chairman: Robin Hunter, Southern Universities' O & M Unit

Rapporteur: Jean Krasocki, NW Universities' O & M Unit

The Session had originally been planned as a discussion of the findings of the Jarratt Study on University Purchasing Arrangements, but owing to its delayed publication this was not possible. Instead, participants were invited to offer their own views on university purchasing and in particular, they were asked to consider whether the present arrangements were working as well as they should.

To open the discussion the Chairman had invited contributions from three individuals who were involved in different aspects of university purchasing. These were: Bob Morris, Supplies Officer, University of Sussex; Harold Smith, North Eastern Universities' O & M Unit and Dick Nimmo, Bursar, Brunel University. Bob Morris talked first from the viewpoint of an individual university and its consumers. He outlined the results and conclusions of a recent survey undertaken at Sussex to assess the effectiveness of purchasing arrangements and described the changes in purchasing policy which had been adopted at Sussex as a result of this review. Harold Smith who is Secretary to the North Eastern Universities' Purchasing Group talked about the role of regional purchasing consortia and outlined some of their achievements and failures. He also described the efforts being made in the North East region to improve purchasing arrangements but stressed that success at regional level was dependent on the efficient organisation of purchasing within individual institutions. Dick Nimmo, in his capacity as Chairman of the Committee of Chairmen and Secretaries of Regional Purchasing Groups, described the development of national machinery which now exists for cooperation on purchasing matters and the influence of bodies such as the UGC and CVCP on University Purchasing.

All three speakers and the other participants agreed that although improvements in purchasing arrangements had been achieved in recent years, there was room for further significant improvement. It was generally agreed that these improvements would need to be achieved by promoting increased communication and cooperation both within and between universities and by encouraging the purchase of standard products wherever possible. It was also considered that individuals within universities who placed orders for goods and services should not be coerced into utilising centrally negotiated purchasing agreements and contracts. Only if such agreements and contracts are used discerningly within universities will they adequately satisfy the varied requirements of university users. A wide range of other issues were discussed, including the purchase and use of high value scientific equipment, a matter on which the Jarratt Studies have commented. In the time available for the session, however, participants recognised that it was not possible to fully explore and evaluate all aspects of university purchasing.

THE INCREASING NEED FOR INTERNAL AUDIT

J Eves, Chief Internal Auditor, Abbey National Building Society

In terms of the provision of Internal Audit and the understanding of the benefits that can accrue to an organisation from the work of a professionally staffed Internal Audit Unit Universities are the most backward group within the Public Sector. Internal Audit should not only be established to ensure that fraud is not being perpetrated and financial matters properly controlled but should also be

expected to contribute to the operational efficiency of the organisation. Further, great risks now exist in terms of computer fraud, abuse and the potential for serious damage to be done to systems by unauthorised access.

Given therefore the assurance that Internal Audit can provide both on Manual and Computerised Control Systems and the need for such assurance, particularly in times when staffing cutbacks can lead to controls being weakened haphazardly, then Internal Audit should not be seen as a luxury, but as an essential part of the review and assurance objectives of Universities.

It is accepted that such a provision is expensive especially in terms of Computer Audit staff. However other public sector groups, notably in the Health Service and within similar Local Authorities, have overcome this problem, despite severe cutbacks, by forming consortia to provide a proper Internal audit service to a group of authorities. This would certainly be the answer to the problems of providing a Computer Audit service and probably also be the answer for providing a cost effective Internal Audit service generally.

ENERGY CONSERVATION IN UNIVERSITIES

R. S. J. Saxton, Energy Manager, Imperial College

The session described measures taken at two locations, London and Sussex, and highlighted the problems and benefits resulting from energy conservation programmes. Two different approaches were considered: high cost investment involving the use of a computer based management system and low cost investment without the use of such a system.

The discussion centred on targetting and monitoring results. It was generally agreed that energy savings programmes were least effective in hostel and residence areas and it would be of interest to hear of successful approaches in this specific sector of a university.

BUILDINGS MATTERS

Chairman: J W Diplock, Director of Works, Surrey

The session opened by the Chairman outlining changes in the University of Surrey organisation structure and the effects of the 1981 cut back in funding and on space requirements. The balance between directly employed labour and sub-contractors was discussed and members contributed by outlining their University's policy, bearing in mind the need to maintain a corps of tradesmen who know the peculiarities of the site. Statutory electrical and mechanical inspections were discussed and the interaction between secretariat, academic and student requirements. The use of the recently installed computerised building automation system was explained and the system of job cards, stores issues/receipts for maintenance and minor works projects cost control. Tradesmen's wage rates, overtime and incentives were discussed and the different regional approaches to call out for emergency works out of normal working hours. The methods of employment for Youth Training Scheme trainees was discussed.

Major and Minor New Works control methods were outlined including tender action, use of schedules of rates and the cost effective use of directly employed tradesmen. The interaction between the Purchasing Consortium, PSA Contracts and local builders' merchants supplying various works organisations proved to

be most interesting and members discussed personal experiences portraying regional differences in the ability of suppliers to provide goods and services on time. Recent changes in paint formulas are producing colour matching problems in some locations. The financial implications of maintaining a stock of supplies was contrasted with the background of rising inflation rates and various methods of charging stock items when taken into use. Frequency of painting programmes in members' universities were compared and the experiences of some members when facing replacement of aluminium frames.

Mr P F McNichol of McMaster University representing the Association of Physical Plant Administrators of Universities and Colleges in America, Canada and Australia, then addressed the session. He outlined the Association's activities and publications and contrasted the different approaches.

The session ended with a general discussion on related subjects and members were invited to remain after the session to view a video prepared by the University of Surrey to promote energy conservation by staff and students.

THE ROLE OF SECURITY

Neville Gladstone, Assistant Bursar, Bath.

H. Price, Chief Security Officer, Surrey.

J. Bayton, Assistant Accountant, Surrey.

N. A. McHard, Assistant Secretary, Southampton

Mr N A McHard dealt with the role of security within the University context. During the presentation and subsequent discussion it was held that, in order for one to consider effectively the role of security, the function or overriding interest of a University needed to be highlighted. To this end, although teaching and research were acknowledged to be the prime functions of a University, it was acknowledged that revenue earning and public image had become significant factors in recent years. While accepting that there was need for security ***per se***, the session proceeded to examine the difficulties presented for a security operation by the pursuit of the above mentioned interests. Amongst those problems covered were, a lack of general security awareness within the staff and student body, the concentration of buildings and equipment, the 'open' nature of many University sites, the sensitivity of certain issues (e.g. animal experimentation).

The means by which the identified problems could be overcome were reviewed. Apart from the need for operational efficiency, stress was placed on such aspects of attitude, preparation for dealings with the public, the benefits of good communication and liaison with other groups of staff and the local police. Considerable importance was attached to the need for effective and comprehensive training of staff and the provision of an appropriate structure in which development could take place and motivation be encouraged.

Mr J Bayton, spoke of the value of having a computerised record of the details of all equipment within the University in cases of theft. Descriptions and serial numbers are vital to police enquiries, in addition to the undoubted benefits of other University accounting and supply procedures.

Mr Henry Price, dealt with visible markings on equipment and recommended an engraver's drill on most metal and plastic surfaces, plus other more covert markings on highly attractive electronic equipment which has a ready market.

Mr Neville Gladstone of the University of Bath, dealt with the alarm systems which have been installed in those areas where there are security and attack risks and the necessity to survey and review with up-to-date equipment. A cautionary approach was advised on incorporating security lines with lighting and environment control systems.

LET THE MACHINE TAKE THE STRAIN!

N. A. McHard, Assistant Secretary, Southampton

C. W. L. Swann, Assistant Registrar, Southampton

This session, now a well-practiced double act, provided an insight into the steps one university took to automate a series of processes leading to degree conferment and graduation.

The material presented provided an example of the care and attention to detail required in implementing a computer assisted clerical system, not only in the design and development stages, but also in other areas of concern such as staff training, attitudes to computing, and the system's wider ramifications (impact on other clerical/computing systems, presentation of degree certificates etc). There was ample and frank illustration of systems development and testing of programmes using live data because of time constraints.

The relative merits of word processor and computer-based systems were discussed using examples of both Faculty (student records; examination marks grids/pass lists,) and central registry systems (supplementary examinations; finals pass lists, graduation programmes and degree certificates).

Each type of machine had strengths and weaknesses which could and should be matched to the tasks to be performed by it. For example, to run a Faculty's student records system on a word processor would have been very expensive in staff time, would have duplicated existing records systems elsewhere and, above all, would have been inefficient to operate because of technical limitations like disc capacity etc. However, text editing and arithmetical capabilities on the word processor were ideally suited to the production of examination mark sheets, with a saving of around two million keystrokes during the "pre-results rush".

A full explanation was given of the so-called "GRADSYS" systems which enabled the programmes, pass lists and certificates to be produced from a single input and achieved a significant reduction in staff workload and time consuming checking and printing activity. A substantial financial saving was also achieved and the cost of an individual degree certificate was reduced from an average of £1.50 to £0.6. Such a certificate took 8 seconds to produce.

Throughout the session the speakers stressed the message that machines and tasks should be matched and that almost every task had a realtionship to another one: for example, a University computerised exams system could provide information, via an electronic link, for use as a Faculty word processor exams system. In other words, new systems should be designed as integrated packages using the right horse for the right course - cross-breeding as necessary to obtain the appropriate animals.

TELECOMMUNICATIONS

B. Mayes, Estates and Buildings Officer, Sheffield

The session began with an introductory outline of the range of telecommunication facilities nowadays available and their relevance to university requirements with particular reference to speech, data transmission and cabling networks. The advantages and disadvantages of providing a unified networking system (Local Area Network) were outlined with reference to recent and predicted changes in technology.

Mr. Meurig Davies Bath University, described the marketing investigations which had been carried out by the Southern Universities Purchasing Consortium and in particular the detailed investigations he had himself made into the relative merits of the switches and systems which the rival companies could provide. Reference was also made to the services which consultants could offer and particularly to the independence of British Telecom's consultancy service (Tallis).

In this field of rapidly changing technology there is no "right time" to install a new telephone system; whatever system is adopted is likely to become obsolescent in a short space of time and the decision as to when to change to what must be made on an ad hoc basis.

CHANGING YOUR ADMINISTRATIVE COMPUTER SYSTEM

J. J. McCloy, Manager of Data Processing Services Belfast

This session examined the various factors leading to a change in computer system, the resultant benefits and problems and the implications for the university's administration. Recent experience of a change at Liverpool was reported by Mr Tony Rowland, the Data Processing Officer, and Steve Carter, Systems Manager at Sussex reviewed the effects of such a change on staff and the preparations which should be made. The session was a repeat of no. 313 at the 1984 Conference reported fully in the Liverpool proceedings.

A key factor in the quick implementation of administrative systems today is the availability of modern "fourth generation" software utilities for data management, system building and query and report generation. The ease of use of such software was illustrated by Mike Burden, the Data Processing Officer at Surrey, who demonstrated how the CUA85 Conference Registration System had been built up and operated using the software product "INFORMATION" on the university's PRIME computer system.

TOWARDS A MODERN ADMISSIONS OFFICE

Bruce Shutt, Associate Vice-President for Student Affairs, University of Georgia

Introduction

I will speak about the past only as a point of departure for understanding today's environment in attempting to predict the future.

1. Entered the profession in January 1963 at Indiana University as an Assistant Admissions Officer making $6,000 annually.
2. The big admissions "crunch" started:
   (a) hundreds of freshman applications arriving daily

(b) data (test scores, high school transcripts, letters of recommendation) piles everywhere

(c) use of social security numbers as student ID numbers was just beginning

(d) if any data was being stored for registration or record keeping, it was keypunched/keyverified - turnaround time was pitifully slow

(e) telephone calls were coming into the office by the dozens daily by parents, high school counsellors, and applicants asking about their admissions status - office staff could not find the folders to answer questions

(f) too many applications/too few personnel to process the paper.

3 The Registrar (person over admissions' and registrars' offices) was about to lose his mind over complaints regarding untimely, inaccurate and incomplete service in the Admissions Office.

4 The scene was ripe for disaster.

5 University of Massachusetts - first computer-aided admissions program'

6 Indiana University was about to acquire a new computer - an IBM 1440 (32k memory). The computer was being acquired for a new registration system (**an on-line registration system**)!!

7 Why not use the computer to help solve the admissions dilemma??

8 1964 - Computer-Based Admissions System

(a) entered personal and admissions data

(b) computer programs admitted, denied, or temporarily held applicants depending upon data

(c) data held for registration later

9 Registration was a class card/fieldhouse (supermarket) operation

(a) long lines

(b) 4-5 days to complete

(c) ran out of cards

(d) slow process for students

(e) many manual processes/many personnel involved in operation (expensive)

10 1965 - On-Line Registration System

(a) IBM 1050 typewriter terminals

(b) telephone operators (10)

(c) good system - it worked.

11 No record system in place to handle good data from registration.

12 Registration system abandoned in two years.

13 New Permanent Record Storage (cumulative) built using computer storage in 1968.

14. Problems:

(a) no paper documentation in Admissions or Records Systems

(b) much documentation resided in programmers' minds

(c) few trained computer personnel in systems design

(d) computers too slow and not big enough

(e) incorrect grades (3 times)

(f) permanent (computer) records **wrong**

(1) no transcripts for **five** semesters

(g) permanent record nearly lost.

15. **1970's**

(a) bigger, better computers

(b) well-trained personnel for development

(c) registrars' and admissions' officers went back to school (IBM-Endicott)

(d) we learned to communicate with data processors

(e) systems approach became the standard

(f) integrated files approach was the latest technique to begin to tie the data with many user offices on campus

(g) data base technology being discussed

(h) admissions offices routinely using the computer for a variety of tasks

(i) registrars moving away from cards - going to on-line systems.

16. **1980's**

(a) big movement to on-line systems

(b) disc storage - cheap

(c) word processing

(d) mini-computers/micro computers

(e) start of new problems

(1) slow response time

(2) not enough memory

(3) complex and complicated tasks (unable to satisfy users)

(f) personal computers

Where are we going?
Impact of Technology

In the area of data collection, applicants will most likely supply all required data via electronic means - data will be received by admissions offices from applicants, from testing services, and from high schools by transmitting data from their data bases to the institution's data base. The information in turn will generate admissions decisions which will likewise be transmitted to the students and high schools by similar means. Our computer word processors will talk to our

prospects' computer-word processors either at our institution or because the prospects inquired about us. Most superior academic prospects will be home computer owners.

Laser discs and video tape technologies will replace slide shows and act as supplements to our brochures. Currently, six percent of all American homes, and virtually all high schools, have video tape machines. Large screen TV formats will replace projectors. It goes without saying that the increased reliance on machines will cause the impact of personal contact to be even more important and impressive.

The modern admissions office of the 1980's and 90's will include consideration of physical location, interior design, communication, evaluation, staff, hardware, software, and top administrative support. Each of these items is an essential ingredient if the goals and objectives of the undergraduate admissions office are to be achieved. The admissions office will have as its two main functions evaluation and communication. These two functions must go hand in hand and must be complimented if the admissions office is to be considered a success at the end of its admissions year.

Physical location has become an absolute necessity for the undergraduate admissions office if it is to attract and properly inform its clientele. Unless there is easy access to the office and its location on campus, often times students and parents may be turned off and may, in fact, seek another institution that is more accommodating. The interior design of the office is equally important. Competition among many colleges and universities across the country has been quite keen in terms of the pleasant surroundings a student and his parents find once they arrive for the interview process. In short, if the office looks like a processing factory, parents and applicants could easily be persuaded to attend an institution where the surroundings are more pleasant.

Communication is a necessary function to be conducted with applicants, with prospective students, and with "significant others". Communication will involve viewbooks, brochures, bulletins, catalogs, as well as the application form. All must be attractive, informative, and easy to read. Communication will involve the passing on of information related to housing, financial aid, new student orientation, and other student affairs functions. Communication will involve the use of the telephone, the word processor, and in some cases other on-line applications to students and/or high school guidance counselors. Communication may also involve events on campus and in communities throughout the state and/or nation. It may involve trips with guidance counselors to the campus or vice versa. Communication today most assuredly involves advertising and public relations. The new technology enhances communication through the use of cable TV, home video cassette records, office lasers, slide tape cassette services, and computer "college search" programs and printed guides. Communication involves travel to high schools by college representatives to attend College. Today, it involves the use of vehicles acquired by the campus to transport both small and large groups to different locations throughout the state. Communication with "significant others" involves school/college counselors, campus officials, and parents of students.

Evaluation, the second key function in the admissions process, will involve the use of professionally trained staff, modern up-to-date hardware and software, and the support of top administration. Evaluation will involve the assessment of applicant admissability and the establishment of research efforts to study prospective students, applicants, enrolled students, dropouts and stopouts, and alumni.

Mass transit systems will make meetings easier to sponsor and coordinate in urban and suburban areas. Education itself will be more decentralized; again, because of the increased availability of interactive computers and audio visual media, plus increased mass transit. As these technologies become more numerous, their use in educational settings will become more refined, especially if cost savings are realized without harming the aims of higher education. Students will be able to get a large number of courses through electronic extension type programs. Offerings will need to be flexible and appropriate to the needs of the student population. Students will demand it!

There is likely to be a trend toward a uniform nationwide course description and numbering system for college credit thus alleviating the articulation problem. The student, the buyer of education, may not tolerate the lack of uniformity which currently exists.

Each admissions officer will have immediate access to all data on students through a desk terminal. Although this access is not new to some large institutions, it will be more commonplace throughout all institutions that survive in the later two decades of this century. Each institution and each program within the institution will need a computerized presentation which can be accessed by prospective students through their home computers.

All fiscal and personnel records will be computerized to avoid paper handling. All supplies and materials in either office will be ordered and inventoried by either computer or word processor. Research and statistics will be stored electronically and updated as needed. Most Directors of Admissions and Registrars will (1) make use of electronic mail on campus, (2) convert to paperless records offices, (3) permit decentralized data entry for students, (4) make greater use of word processors, and (5) rely heavily on data base information systems.

Social and Economic Impacts

Annual operating budgets that are enrollment driven may result in lowered admissions standards, an increase in institutional retention, an expansion of positive marketing techniques, and greater involvement of admissions personnel in the total institutional picture. A rapidly fluctuating economic picture and rapidly changing needs in industry and business will impact higher education's current inability to keep abreast of training people to meet these demands. The effects of unemployment rates on enrollment patterns and student interests will cause a shift toward more vocational training. The changing ethnic composition of the United States will impact our institutions. Local and national service for international students will need to be computerized and expanded. Minority students will be the group with the greatest percentage increase in enrollment. Services and recruitment efforts will need to be geared toward the minority student population. Special attention will be given toward more remedial work and support services in programs that teach English as a second language. More non-traditional students will appear in college thus changing the character of college life and the types of recruiting.

Both offices will become staffed with people who are system-oriented. Special effort will be made to stabilize the services to constituents. Although budget crunches will bring about reduced staff for smaller populations on campus, I do foresee better compensation for a better educated or trained professional in both Admissions' and Registrars' work. The terminal degree for the top position in either area will become a **must!**

The current battle going on with regard to the acceptance of transfer credit will be won by those institutions that are now suspect. They will clean up their act. They

will gain academic credibility, and their transfer credit will be universally accepted across the board. **More emphasis will be placed on industry education. Much of this credit is not now being seriously considered in institutions of higher learning. Much more of it will gain acceptance in the next two decades.**

Students are likely to be completely mobile. Students of all ages will drop in and out of classes at their own discretion. The Admissions Officers and Registrars will need to be able to serve this type of activity. The Admissions Officer will probably become the official host for all campus visits. Student guides and organized campus tours will be needed at all times. Convenience services such as parking and transportation must be available. Orientation to college will begin about the sophomore year in high school and continue through at least the first two years of college. Advanced placement, early admission, and joint enrollment will become even more routinized. Finally, students are likely to retain an updated microfiche copy of their permanent record which can be presented to any Admissions Officer or Registrar across the country. The educational passport will have become a reality.

CONVERGING SYSTEMS : INFORMATION SYSTEMS AND OFFICE AUTOMATION

R. W Ewart, Head of Department of Computing Science, Ulster

The management information service required and expected by university administrators is changing. However the service which is at present provided is somewhat fragmented. A range of operationally orientated data processing systems exist in most universities and by and large they serve sectional interests. Office systems, usually word processing systems, are being introduced both formally and stealthily. The provision of campus networking facilities is closer to reality than ever before but only occasionally are the administration's needs formally discussed within this context. The situation is delicately balanced at this point in time: the various computing providers of information technology services could go in directions which made their eventual inevitable reconciliation very expensive or they could begin to plan their way forward together. The latter goal should be a priority target particularly at a time when good management information is so important to the university, its academics and administrators alike. What we are looking for involves computer based record systems for the Administration Offices, Faculty Offices and Academic Departments and the exchange of information in electronic form between them.

For each application area the record system would operate in essentially the same way although there would be some differences due to access and audit constraints. They would be largely terminal based systems although access would also be available by submitting data on appropriate forms or by making written requests for information which would be centrally processed. The level of service at each workstation would depend on its location in an Administration, Faculty or Academic Department Office. This would mean that each such office would communicate with the central computer either to input new data, to look at the contents of a particular record, to make an enquiry involving the particular record system as a whole or to initiate a specific computer job like Payroll, USR returns etc. Where the workstation had no record keeping facilities access is obviously only to records on a central computer. Where the workstation is a microcomputer a number of possibilities exist.

This general picture has two implications:-

the level of communications required between the various offices and the central records must support local and central systems

that a standard approach must be taken to the development of local systems to fit into this framework.

It also suggests that a **standard approach** to the development of the main record system would have advantages since any one workstation could have access to each of the three main systems.

But within a university administration is not the only activity which is information technology based and the Admin. Data Processing Department is not the only provider. Indeed the other providers, the 'Computer Centre' and 'Provision for Teaching', are both numerically and politically more powerful.

The Computer Centre's role has been changing. The straightforward provision of processing power is no longer the only major function of individual university computing services. The most important form of support is advice - mainly on how to solve problems which are amenable to computing in an effective way. At the same time the local computer centre plays a vital role in providing cost effective general services for large numbers of staff and students, local data communications services and access to the national communications network. They can provide guidance to the university as a whole on the effective use of resources devoted to computing and on the development of a sound and consistent set of Information Technology tools and services. Linkage of computer systems of different types and the introduction and support of new data communications services, which by their nature are best managed by a single administrative unit within the university, are likely to become increasingly important roles for computer centres. With the new developments in Information Technology and the exploitation of the connectivity offered by modern data communications systems, the links between central computer services and other departments (academic and administrative) within universities become stronger. Some computer centres are already collaborating with their university library to provide joint information services of various kinds. Some computer centres have been responsible for administrative computing within their universities for many years; others are coming under pressure from departments to provide access to administrative facilities from local terminals as a way of reducing the workload of academic staff. Word processors and other computer based office equipment are connected to the local network and it becomes difficult to distinguish betwen automation of "routine" office procedures and academic computing. Computer centres will continue to get more and more involved in new areas which used to be outside their scope. They are actively putting forward their case as a provider of information technology services.

In a recent report on Computer Facilities for Teaching in Universities it was demonstrated that there has been a lack of planning for teaching facilities in the majority of universities. The report concluded that existing facilities were inadequate and suggested that each institution initiate a study of the way in which the computing needs of students can best be met and supported in future. So here is another provider of information technology services which are getting their act together.

In both cases the information technology services involve networking, distributed databases and multiple workstations, but these are the same set of services required for the administration. And in both cases plans are being formulated to secure a reasonable service over the forseeable future. There surely is a danger that the administration will once again have to fit into whatever range of services are provided unless it can present its requirements and work, as an equal partner, with the other information technology providers to plan a University wide service.

There are of course problems not the least of which is data security and confidentiality but perhaps the most significant of which would be user confidence. The major problem of cost, capital and recurrent, which must obviously be high if we have duplicated services is probably overriding although the breadth of service that can be provided by a coordinated approach is a most powerful argument in favour of this approach. The pressures therefore exist for the administration to work with the other information technology providers and, if necessary, through them to whatever national coordinating bodies exist. However, it must do so as an equal partner with responsibility for providing services which stretch from administration section to administration section, to academic departments and to other institutions.

The administration must prepare its Information Technology Plan or Charter; it must on one hand determine its application and operational objectives and on the other it must formally organise itself to work with the Computer Centre and if necessary through them to the Computer Board and the Joint Network Team to provide a technology backbone upon which to realise these operational and application objectives.

SO THE MACHINES ARE FRIENDLY BUT WHAT ABOUT THE USERS?

J. D. Hawthorne, Assistant Registrar, Sheffield

The session described the growth of institutional word processing in the University, starting from early and unco-ordinated purchases in the mid-1970s: at the end of the decade the University had 13 purpose-built word processors in various locations, almost all different from each other and all but one purchased from non-UGC funds. There was at that time no formal committee responsible for word processing (although an informal user group existed), and it was not clear whether requests for resources to purchase word processors should be handled through the Computing Committee structure or through the office equipment budget.

In 1980 it was decided at high level that a policy for the future should be devised, and a report was commissioned from the Regional O & M Unit. This recommended the acquisition of 30 word processors from a single supplier, and envisaged that this provision would allow 30 clerical posts to be saved. 4 systems were to have printers capable of handling scientific and mathematical text, and it was recommended that word processing should be a responsibility of the Computing Committee.

In response to the O & M report the University established a working party, which in turn set up sub-groups on the choice of hardware and on its possible distribution to departments. It was soon decided to opt for purpose-built stand-alone word processors rather than microcomputers with software packages, or shared-resource systems, and in due course tenders were invited. 7 short-listed suppliers then lent systems to the University for a fortnight, and extensive trials were carried out with a panel of secretaries from differing backgrounds. To everyone's surprise the trials revealed a very clear preference for one system, available in "technical" (scientific/mathematical) and general purpose configurations, and in April 1982 funds were made available for an initial purchase of 23 Compucorp model 675 word processors: no less than 14 of these were technical, as opposed to the 4 suggested in the original report.

The Compucorp equipment was supported by a dealer within Sheffield, and although this had at first seemed a considerable advantage grave problems were experienced as the size of the order stretched the dealer's resources to their limit.

Faulty hardware could not be serviced or replaced quickly enough, and operator training proved a severe bottleneck. Eventually the dealer ceased trading, and although this seemed likely to be catastrophic at the time the enforced transfer of the University's business directly to Compucorp in fact marked the beginning of a greatly improved service. However, the training difficulties remained, and to meet the need the University seconded a member of the clerical staff to work full time on training and development work.

By the summer of 1983 the University had 37 Compucorp systems, 23 in academic departments and 14 in administrative offices. A major review of progress was carried out, with questionnaires addressed both to Heads of Department and to operators. This revealed a generally positive reaction to the introduction of the word processors, although 30% of users did not feel that they had yet realised the full potential of the equipment. The general purpose systems were mostly giving excellent results, but the users of the technical systems reported considerable difficulties with software and with the intelligent dot matrix printers used to produce specialised text. Partly as a result of the review, a decision was taken in the summer of 1983 to purchase a 6-station shared-resource AES system to meet the very specialised technical needs of the University's Physics and Mathematics Departments: the extra power of this equipment also meant that it could be used for the departments' UCCA processing, and the purchase allowed existing Compucorp equipment to be reallocated to other users. At the same time the University tackled the problem of small departments which required limited word processing facilities, by making a central purchase of electronic typewriters. Further developments took place in 1984, when the 14 technical Compucorp systems were upgraded with new and more powerful processors (Compucorp model 775s), again with a reallocation of displaced systems, and to cope with the continuing growth of word processing a second (part-time) trainer was appointed.

Although the original O & M report had recommended that word processing policies should be developed through the Computing Committee structure, the University's own working party had in fact continued as an independent committee: at the beginning of 1985, however, this was absorbed into the Computing Committee structure as part of a package of reorganisations. Given the great improvement in microcomputer-based word processing systems since 1982, a further survey was carried out to help in future planning: this revealed a greatly increased requirement for communications between word processors and mainframe computers, and the Word Processing Sub-Committee now envisages that future provision will be carried out largely through general purpose microcomputers provided with suitable printers and high quality software. There is however no doubt that the existing dedicated systems - now numbering well over 50 - will continue to be used fully.

Discussion at the end of the session emphasised the importance of training and central support in an institution's word processing policy, and the desirability of concentrating, as far as possible, on a small number of choices of equipment. The Sheffield policy of retaining central ownership of word processors and issuing them on extended loan to the user departments has been found helpful in maintaining control. The importance of very thorough trials before equipment is chosen was also emphasised, and it was clear in retrospect that Sheffield had sometimes suffered as a result of not pressing its suppliers sufficiently to solve specific problems or to meet outstanding obligations. Participants agreed that despite the proposals in the O & M report the introduction of word processors does not in fact allow significant clerical staff savings to be made, although the equipment undoubtedly eases pressure once it is fully operational and probably

staves off requests for additional clerical provision. A participant from Australia made interesting points about wrist problems encountered by some operators, for whom the advent of word processors has meant a great increase in the amount and speed of work at a keyboard: it appears that the use of purpose-designed furniture is genuinely beneficial in alleviating these problems, but brings significant financial implications.

It was suggested that Sheffield does not claim to have found all the answers in word processing, but that the University has gained much useful experience from being one of the first to seek an overall policy and a large scale provision of equipment under central control. Lessons have been passed on to other universities, and much has been learned from elsewhere: as in computing matters generally there would never have been a 'right moment' to launch into word processing, but despite the problems experienced the relevant committees at Sheffield have few regrets about the way in which the University's policy and experience has developed.

THE PERSONNEL IMPLICATIONS OF NEW TECHNOLOGY

Co-ordinator: John Davidson, Personnel Secretary, Imperial College

Introduction

The group considered five main questions:

1. What is new technology?
2. Why do employers introduce it?
3. Who is affected by it?
4. How is it to be introduced?
5. What of the future?

What is new technology?

The group confined its discussion to office technology concerned with data processing, text processing and other technology. All facilities were concerned with some aspect of information capture, processing, transmission, storage or retrieval.

Why do employers introduce new technology?

The reasons discussed were those cited for the introduction of new technology; they were not necessarily accepted as of equal value or equally valid.

The reasons concerned the PRODUCT:

> reduced costs, increased productivity, increased speed of reaction, improved quality, increased range

and the PEOPLE:

> improved job satisfaction, optimisation of staff resources, reduced absenteeism, reduced turnover.

Who is affected by new technology?

This was discussed from the angles of both the staff and their trade union representatives. For the staff it was essential to recognise that new technology raised both fears and hopes.

FEARS: Redundancy, loss of status, de-skilling of jobs, extra work demands, deterioration in quality of life, health and safety concerns.

HOPES: Increased employment, enhanced status, opportunities for training and acquisition of new skills, easier jobs, greater job satisfaction, promotion.

Whether or not any of these hopes or fears is well-founded is irrelevant, the fact that they may exist should be taken into account.

In addition to the reaction of individuals there are collective reactions on the part of trade unions. These are less easy to categorise. There is likely to be:-

resistance to potential job loss as well as redundancy

ambivalence because many staff like working with the new technology

pleasure at the extension of the range of bargaining issues (NT agreements) and involvement in training.

How is new technology to be introduced?

Against the background of some of the issues raised earlier the group looked at some of the steps necessary for planning, implementing and operating the introduction of new technology.

Planning: Analyse requirements of the system, evaluate options, do cost-benefit analysis, determine terms of reference (NT agreements etc.), design jobs, publish timetable.

Implementing: Health, safety and work environment considerations, training.

Operating: Use performance indicators, do cost-benefit evaluation, adapt as a result of feed-back, keep knowledge updated, carry out health checks.

What of the future?

Financial stringency will continue.

There will be more emphasis on efficiency and value for money.

The skills profile of staff will change.

The organisational profile may change.

Further discussion

In further discussion the matter of dealing with staff who resist working with new technology was pursued. Earlier the group had considered two recent legal cases where there had been resistance to working with new technology:

(1) Cresswell and others v. the Board of the Inland Revenue before the High Court in February 1984.

(2) Johnston v. Highland Regional Council before the Inverness Industrial Tribunal in July 1984.

Bibliography

Among suggested further reading the following two publications were suggested as of particular interest:

How to introduce new technology, a practical guide for managers, the Institute of Personnel Management, 1983 £5.95

Visual Display Units, the Health and Safety Executive, HMSO, 1983 £5.00

GOOD AND FAITHFUL SERVANTS
THE LEGAL DUTIES OF UNIVERSITY EMPLOYEES

Diana Kloss, Senior Lecturer in Law, Manchester

The employee is in a situation vis-a-vis his employer where the law places on him a duty of faithful service. This can sometimes be rather one-sided, as the employer's duty on the whole is only to stick to the letter of the contract, though developments in the law of constructive dismissal have somewhat modified this. The ramifications of the duty of fidelity are many and various and include an obligation to keep information confidential, unless it is in the public interest to disclose it, not to work for competing employers and not to disrupt the employer's enterprise. Particularly important at present may be the rights of the employer to claim any invention or copyright produced in the course of employment, though in the university context the scope of the latter is doubtful. It is also difficult to be sure to what extent non-employees, like students, owe duties to the university. Can it claim the benefit of a student invention? Discussion ensued on a number of points, including the effects of the Data Protection Act 1984 on the duty of confidentiality with regard to information held on computer.

JUDICIAL REVIEW OF UNIVERSITY PROCEDURES

Margaret Brazier, Senior Lecturer in Law, Manchester

The session begin with an examination of the general rules of administrative law in England. Requirements for procedural fairness and proper exercise of discretion by decision-makers were discussed. University procedues were analysed to discover which particular areas of university decision-making appear vulnerable to judicial review. Considerable discussion ranged around admissions procedures. The session then moved on to the issue of the correct forum for review of university procedures. The case-law, as to whether decisions may be challenged in the courts or are only reviewable by the Visitor, was outlined by the speaker. The present state of the law was agreed to be entirely unsatisfactory. The boundary defining the functions of courts and Visitor is unclear. The nature of the Visitor's jurisdiction is hazy. And there appears to be no set procedure for hearings before the Visitor. It was felt that no-one but the lawyers benefited from the present state of confusion.

UNIVERSITY INSURANCE:
PROFESSIONAL INDEMNITY & UNIVERSITIES

Chairman: P. J. Hayward, Administrative Officer, Sheffield

Speaker: J. A. C. Kidd, Professional Indemnity Underwriter, Sun Alliance Insurance Group

Universities became interested in Professional Indemnity Insurance following the Hedley Byrne case in 1964. The court held that an action in tort could be brought successfully by a person who is not a part to a contract with the advisor.

It is necessary to understand the main difference between Professional Indemnity Insurance and Public Liability covers. The fundamental difference is that Professional Indemnity normally applies to economic loss whilst the Public Liability policies apply to Liability for accidental injury or damage to property. Owing to the possibility of disagreement between the Insurers as to which policy applies it is advisable to insure both Professional Indemnity & Public Liability risks with the same Insurer. A university may have to face a claim in a variety of circumstances :-

a) In contract or tort where the services are provided for a fee

b) In tort where services are provided without a contractual obligation to do so

The university is liable for acts or omissions of staff owing to the master/servant relationship. Quite apart from being liable for advice or services provided on its behalf a university may find itself vicariously liable for acts or omissions of staff undertaking private work whether the activity has been sanctioned or not. Members of staff are personally responsible for claims arising out of private work. Cover for both university and staff member concerned is available.

When effecting Professional Indemnity cover a university should seek

a) a financially secure insurer, as it may be many years before a claim is paid

b) an adequate Limit of Indemnity, £1m at the very least. Awards can be enormous. Most universities have a limit of between £1m and £5m

c) all activities should be covered. claims arise in unexpected circumstances

d) a wide policy wording including such matters as defence costs (in addition to the Limit of Indemnity), dishonesty, loss of documents, libel & slander and adequate territorial limits

e) reasonable policy conditions which give the policyholder some protection in the event of innocent non-disclosure or misrepresentation at renewal or violation of a policy condition.

Reference was made during the talk to a number of court actions which could affect the Liability of a university and brief details were provided of some claims which have been made against universities and other places of higher education.

The various aspects of a university's work which incur exposure to a claim were discussed including the provision of advice, design and other professional type services (including those related to the medical profession).

QUALIFICATIONS FOR ADMINISTRATORS

Chairman: John Lauwerys, Senior Assistant Secretary, Imperial College

Rapporteur: Stephen Sykes, Assistant Secretary, Open

Background

The Session was chaired by Mr. John Lauwerys, Senior Assistant Secretary at Imperial College, who began by summarising the developments which had led the CVCP to establish a Working Party to examine the issue of qualifications for university administrators.

In the late 1970s, the issue had been considered independently by the AUT and by the CVCP. An AUT discussion document had received a mixed response from members: in general, recently recruited administrators supported the idea of a professional qualification, while more senior administrators were not convinced that a qualification was needed. The CVCP Administrative Training Committee had discussed the issue in 1976, but had reached no firm conclusions. Later, the Committee had issued a list of various qualifications which were available, without comment on their suitability.

Early in 1984, the CVCP Administrative Training Committee issued a discussion paper written by Dr. Christine Challis. It was recognised that appropriate qualifications for specialised areas of administration were already available, and the paper was concerned primarily with qualifications for generalist administrators. The Committee identified several possible approaches:

(a) continuing to provide a list of existing qualifications;

(b) providing guidance on the suitability of existing qualifications;

(c) developing a specific qualification based on CVCP or university courses;

(d) forming a link with a professional institute such as the Institute of Chartered Secretaries and Administrators.

Members of CUA and of the Conference of Registrars and Secretaries were invited to comment on these options.

In its response to the CVCP paper, the CUA recognised that the issue was an important one, and that the time might be right to make progress. However, the CUA Executive believed that it would be premature to comment on the suitability or preferability of any existing qualifications. The first step should be to identify the range of knowledge which it would be helpful for generalist administrators to acquire; it would then be possible to evaluate existing qualifications and to determine whether there was a need to develop a new qualification. The CUA suggested that a working party should be set up to perform this task.

In June 1984, the CVCP Administrative Training Committee considered comments received on its discussion paper, and agreed to establish a working party chaired by Mr. Michael Paulson-Ellis, the Registrar of the University of East Anglia, to examine the issue as suggested by the CUA.

Knowledge and skills

The Working Party had sought to identify the knowledge and skills which generalist administrators might be expected to acquire during the first five years of their careers. Mr. Lauwerys presented the Working Party's provisional list of desirable knowledge and skills:

Knowledge

1. Basic understanding of the education system with particular reference to higher education and the development of the university sector.
2. The "public" finance system - university financing system.
3. Financial management and accounting.
4. Quantitative methods and basic statistics.
5. Basic principles of law and the law in relation to universities.
6. Behavioural studies - the application of the behavioural sciences to work organisation.
7. Basic personnel practice and industrial relations.
8. Information technology with particular reference to computing.
9. Office systems and procedures.
10. Knowledge specific to the areas of work of individual administrators.

Skills

1. Communication skills.
2. Numerical skills.
3. Analytical skills and problem solving.
4. Interpersonal skills.
5. Self management.

The group discussed this list, and comments were made as follows:

(a) the generalist administrator should be expected to acquire skills, as well as knowledge, relevant to the specific work area;

(b) knowledge specific to the work area would best be acquired on-the-job, rather than through formal training;

(c) the desirable knowledge and skills would not necessarily all be covered by a single qualification;

(d) training should seek to relate university administration to relevant work in other areas;

(e) experience and personal qualities would also contribute to professional ability, and personal qualities could to some extent be developed through training;

(f) there would be a need to consider also the training requirements of administrators in mid-career.

Qualifications and courses

Mr. Lauwerys reported that the Working Party was now compiling a compendium of existing courses and qualifications, which it was hoped would be published before the end of 1985. The intention was not to identify any single course as being the most appropriate, but to offer guidance on each category of course and its relevance to the identified needs of administrators.

The Working Party had identified a number of different types of courses and qualifications:

(a) general management education qualifications, including DMS, MBA, and ICSA qualifications;

(b) professional qualifications in areas such as accountancy and personnel;

(c) short courses organised by CVCP, CUA, universities, and outside bodies such as the Civil Service and the SERC;

(d) taught postgraduate qualifications in educational management;

(e) research degrees.

There was no single existing course which fully met the needs of generalist administrators. Of the courses available, the DMS and ICSA courses covered most of the areas of knowledge identified by the Working Party. Taught master's degrees were available in relevant subjects, but were normally intended as an academic rather than a professional qualification. In general, formal courses leading to a qualification provided an effective means of acquiring knowledge, but were less satisfactory as a means of developing skills. Short training courses, such as those organised by CVCP and CUA, could usefully supplement the more formal general management courses.

The group considered the suggestion that existing mangement courses might be modified to take account of the particular needs of generalist university administrators, in order to provide a qualification which was directly relevant to the profession. Several speakers felt that this would make the qualification less acceptable outside the university system, and would isolate university administrators from colleagues in other areas. Management courses in their present form offered a broad perspective and the opportunity to gain an understanding of administrative practices outside universities.

It was suggested that the possession of a qualification such as DMS was likely to improve an individual's promotion prospects. The content of the course was relevant to university administration, and the satisfactory completion of the course would be seen as evidence of initiative and commitment. Other speakers believed that employers would consider relevant work experience more important than qualifications.

The value of professional qualifications for those working in specialised areas was generally recognised, but several speakers doubted whether such a qualification was needed for generalist administrators. It was important to provide a structured training programme which would encourage generalist administrators to acquire desirable knowledge and skills; whether this led to a qualification was a secondary consideration.

TRAINING THE TRAINERS

Cecily Giles, Assistant Secretary, Edinburgh, CVCP Administrative Training Officer

Background

The Session was arranged at the request of the CUA Training Committee and was designed for individuals who had attended the September 1984 joint CVCP/CUA Workshop for individuals with responsibility for organising administrative training within their own institutions. Members who would have liked to attend the Workshop but had not been free to do so were also encouraged to join the Session.

14 members applied (in addition to the Chairman) but only 11 appeared on the day. The Chairman invited all participants to complete a form in advance of the Conference indicating how long they had been involved in training in their own institutions, what in-house training activities had been run in the past two years, what the level of attendance at UK, regional and in-house events had been and what had been the most successful training item. Participants were also invited to submit a copy of any training policy and which had been adopted within their institution. A number of replies and one training policy document were received but most of these were provided only on the day of the Session. All participants also received a copy of the CVCP publication **"A Strategy for Internal Training"**. Members were invited to volunteer to give a brief account of a successful training session and two undertook to do this but in the end only Caroline Broadway of Sussex gallantly fulfilled this commitment.

The Session

A suggested agenda was sent to each participant and at the beginning of the Session it was agreed that the following topics would be dealt with:

In-house Training Policy:

> How many participants have a statement of training policy adopted or in draft in their institution?
>
> Discussion on the benefits or draw-backs of a statement of training policy.

The main difficulties and successes experienced by participants in organising in-house training:

> Discussion, including a report by Caroline Broadway on the joint training programme run by Sussex and Imperial College.

Training Programmes for clerical and support staff.

Training and Staff Development, including reviews of training, annual assessment.

During a lively discussion in which all members participated, emphasis was placed on the need for an in-house management team to determine what were the skills and knowledge which were required and how far a training policy could be devised, creatively to satisfy these needs. It was noted that this conclusion was very much in line with the recommendations made in the CVCP booklet and indeed with the CVCP Administrative Training Committee's policy.

Participants were invited to complete an evaluation form at the end of the Session and 8 did so.

EDUCATIONAL COUNSELLING AND CREDIT TRANSFER INFORMATION SERVICE

J. Taylor, Senior Educational Liaison Officer, ECCTIS

This session described the aims of the ECCTIS project and the size and contents of its database, and showed how the database can be used by educational administrators.

Aims

ECCTIS is a three year development project under a DES contract awarded to the Open University. The project, now entering its third year, aims to demonstrate that it is practicable:

- to create, and store on a mainframe computer, a databank covering all further and higher education courses throughout the UK leading to qualifications;
- to include in that courses database information about normal entry requirements and non-regular (ie credit transfer) entry opportunities;
- to set up various ways through which that database can be accessed by the general public and by professional advisers.

The main part of the session showed the extent to which these three aims had already been achieved, and the plans for further developments, in the light of which a DES decision on the future of ECCTIS will be made before the end of 1985.

Database

This currently contains about 23,000 course records, covering postgraduate taught courses (over 4,000 courses), first degrees (over 11,500 courses) and national certificates and diplomas (over 4,500 courses). These records cover pretty well all of the courses available in these categories throughout the whole of the UK. A further 2,500 records cover non-advanced further education (NAFE) in the South-West of England, which is the project's starting point for collecting the remaining 40 to 50 thousand NAFE course records for the rest of the UK. Thus the ultimate size of the database is likely to be nearly 70 thousand course records.

Each record contains details of the institution's name, the course title, the duration of the course, how it can be studied (eg full-time, part-time, distance learning), what examinations it leads to, what (if any) professional qualifications are awarded on successful course completion, the normal entry requirements, and the faculty and department responsible. Work is in hand also to include brief information about the course's structure and subject content.

Similarly as the collection of data on credit transfer opportunities continues to grow, this information is expected to be also added to the database. This will largely take the form of information about alternative initial entry routes (eg for mature students) and about entry with advanced standing (eg for those with previously acquired experience, skills, or knowledge relevant to the course).

Database usage

All this data is being stored on a Sperry Univac 1100/82 mainframe computer at Walton Hall in Milton Keynes. Enquirers are welcome to consult the ECCTIS database by letter, telephone or Prestel response frame (Prestel 21161). The resultant answers are printed-out by ECCTIS staff and posted to the enquirers. Arrangements are also being made to provide microfiche packs covering the whole or parts of the records in the database; these regularly updated packs will be available on a subscription basis.

However it is intended that the main route to the computerised database will be by direct on-line searching from anywhere within the UK. This facility is already available at the price of a local telephone call through a Prestel Gateway (Prestel 888). This has been usable in a prototype form since the end of January 1985. In the few weeks since then this scarcely publicised service has been accessed by an average of 200 enquiries every week, equivalent to 10 thousand enquiries a year.

Enquiry procedures

The basic shape of an enquiry has been established to have a minimum of four component parts, namely, the subject wanting to be studied, the level it is to be

studied at, and where and how it is to be studied. All these components are keyworded (the ECCTIS computer currently recognises about 2,000 keywords) as appropriate to each course record. Thus an enquirer identifying an interest in studying **part-time** for a **combined degree** in **Mathematics** and **Religious Studies** in **Wales** will use all these under-lined words as keywords in order to isolate only those course records containing all those keywords.

Discussion

Following this descriptive presentation the group raised several points. The first was about keeping the course records up to date. It is expected that this will be largely done by asking institutions at regular intervals to check the printed-out records of their courses, equally it is hoped that institutions will gradually get into the habit of automatically informing ECCTIS of course changes as they occur.

Second was the importance of developing the store of information on credit transfer opportunities, which ECCTIS has so far mostly gathered from published references in prospectuses, but which will also now have to be gathered by direct enquiry to institutions.

Third was the extent to which the credibility of ECCTIS will hinge on its having a comprehensive database, all answers obtained from the database will need to be as complete as possible with no relevant courses omitted.

Finally there was speculation about the decision expected shortly from the DES about the continuance of ECCTIS after its three year development period. If it is accepted that in its first two years ECCTIS has demonstrated the practicability of achieving the aims originally given to it, then the decision is essentially about the organisational status and financing of ECCTIS from 1986 onwards.

CONTINUING EDUCATION AND CO-OPERATION

Chairman: David Warner, Senior Assistant Registrar, Warwick

1. **Co-operation between further and higher education institutions in post-experience vocational education.**

The Coventry Consortium, which comprises the University of Warwick, the Coventry Polytechnic and the three Coventry Colleges of further education, was used as a focal discussion point. The Consortium's success in providing full-cost, short courses has been due in large part to the establishment of a professional Central Unit team with a strong customer-led philosophy. The functions of the Central Unit are as follows:

(a) To promote and market.

(b) To act as a single, constantly staffed, access point.

(c) To provide an identification of training needs service.

(d) To meet jointly identified needs by sharing staff, sharing facilities and providing programmes which are flexible as to structure, timing and venue.

(e) To expand our range of services according to customer requirements.

(f) To identify sources of external funding to assist training.

(g) To establish new partnerships wherever appropriate.

The Coventry Consortium was launched on a small D.E.S. pump-priming grant and will become self-funding from June 1985.

2. **The recent granting of Responsible Body Status to the University of Warwick.**

The distinctive features of the Warwick organisation were considered, particularly in the light of the new funding arrangements for Responsible Bodies. The features are:

(a) The central position of the new Department in the development of the University's continuing and adult education policy.

(b) The proposed use of joint appointments with staff from existing departments.

(c) The establishment of a controlling Board of Continuing and Adult Education with a strong non-University membership.

3. **The Development of Part-time Degrees.**

The University of Manchester is about to launch eleven part-time undergraduate degree courses from October 1985. The discussion was based on the following general points:

(a) Course and fee structures.

(b) Remission for appropriate experience and/or qualifications.

(c) Credit transfer and collaboration with other local institutions of higher education and/or The Open University.

PART-TIME DEGREES

Sue Boswell, Senior Assistant Registrar, University of London Goldsmiths' College

This was a briefing session for those with little or no experience of dealing with part-time undergraduate degree programmes, and took as its starting point the special needs of part-time students. The scene was set by a short paper on mature student needs circulated to participants in advance and by the following quotation from a university department which had introduced a part-time first degree:

"What distinguishes most of our part-time students is not only that they are able (some very much so) and self-doubting: they are also perfectionists. For all the counter-demands of work and family, the students frequently impose on themselves high and even impracticable standards in their coursework. It is often a delicate task for us to sustain this thirst for high standards and yet stress when enough is enough, and get the mixture of criticism and encouragement right."

The students' needs, and their implications for both academic and administrative staff, were then outlined, on the assumption that at least some evening teaching would be involved and part-time students would not simply be fitted into day-time classes already provided for full-time students; and that part-time students were likely to be mature students, possibly with non-traditional educational backgrounds.

Recruitment and Admissions

Considerable extra demands were described in the areas of advertising/publicity, pre-application advice and counselling, processing of applications, enrolment procedures and fees collection. Academic staff might have to become more involved in the "administrative" processes.

Students

Support and counselling were obvious areas of need; the demands on academic staff skills made by different learning and teaching needs were also referred to.

Academic staff

The challenges presented by part-time students, with their greater experience of life and higher motivation, would call for a high level of professional competence on the part of teachers; the UGC Working Party on Continuing Education had placed great emphasis on the requirement for the professional development of academic staff. The necessary commitment might also need to be reinforced by incentives in terms of departmental resources (eg by changing FTE weightings in favour of part-time courses).

Course organisation

This included looking at course and examination organisation and regulations to see whether they afforded enough flexibility, and a form of assessment suitable for part-time study.

Policies

An administrative input would be required in institutional policymaking on such matters as: setting the level of part-time fees, assessing the level of intake required to compensate for increased early drop-out, allocation of FTE weightings, re-distribution of resources, possible revision of regulations, special entrance schemes. There might be an increased commitment in personnel functions if new staff contracts needed to be negotiated and if any special training programmes were to be set up.

Facilities

In addition to the resource implications of the increased staff time and expertise required to run part-time degree courses, there would be a financial commitment through extending facilities such as refectory, library, AV services, increased space requirements (eg for examinations, or if any day-time teaching were involved), nursery, portering and laboratory staff, heat and light, maintenance to cope with extra wear and tear on buildings and equipment.

Finally, participants were advised not to overlook the less quantifiable but significant aspects of mounting new part-time programmes in the strain put on the institution as a whole by conflicting demands and shifting institutional goals, particularly at a time of diminishing resources and uncertainty about the future.

Many of these points were then taken up and illustrated by two colleagues from Goldsmiths' College, Mary Barrie and Pennie Hedge, who spoke from their experience as Deputy Academic Registrar and part-time student respectively; Pat Sponder spoke briefly about Manchester's new part-time degree programme, and a general discussion followed in which participants contributed observations from their own experience of part-time degrees.

PROMOTING UNDERGRADUATE ADMISSIONS: MARKETING OR COUNSELLING?

Chairman: John Hayward, Academic Registrar, Hull

Speakers: Joanna Motion, Information Officer, East Anglia
Richard Lister, Assistant Registrar, Hull

Joanna Motion suggested that the fundamental aim of Schools Liaison, whether it is viewed as a marketing or as a counselling exercise, is to help students get into universities. That process has become enormously more complicated for sixth formers in recent years: Brian Heap reports that the current UCCA handbook alone lists 8,756 first degree courses. Nevertheless the reasons why most candidates choose a particular institution or course are very close to the motivations of the older generation now teaching and advising them. These include: closeness to home; the terms of the offer; academic reputation; course structure; a positive welcome from the university or impression on a visit; career reasons; parental pressure; sporting or cultural attractions; personal recommendation; negative reasons. (This list was produced with reference to their own experience, by those attending this session).

Schools Liaison is not the last desperate act of universities in the 'We try harder' bracket; all of us do it and need to do it. There is a misconception that Schools Liaison is some form of hype. It is not about creating illusion; it is about dispelling illusion. It is not about manufacturing an image; it is about projecting an identity. Our aim is the satisfied customer not the dropout, so it is counter-productive for any university to pretend to be something it is not.

In projecting themselves to sixth formers therefore universities have to indicate what they are not and do not have to offer (eg veterinary science, Chinese), and also their particular strengths and idiosyncracies whether of academic approach, courses, facilities, or something else. When these particular negatives and positives are dealt with there remains the great mass of students who would arguably fit in well in **any** university. It is here that Schools Liaison has a specific marketing function. What it aims to do is to get those good candidates who could go anywhere to come to a particular institution, and to come with conviction and motivation: to be pleased to be there. The message of Schools Liaison to this group, reinforced by all the sunny weather and smiling faces in university prospectuses and films, is a simple one. It is about reassurance. It aims to say 'People are happy here. People like you like it here.'

Richard Lister outlined the reasons why Schools Liaison was introduced by universities explaining that in the early stages it was seen entirely as a marketing exercise often initiated by institutions which had a low application rate or believed that public perception of their courses and general image was unclear. As more universities became involved the demand from schools and colleges increased. In time most universities evolved a Schools Liaison organization, in order to satisfy the demand.

As most universities were now involved, the marketing advantage to each separate university has become fairly small. At the same time some effort has to be made by virtually all universities because the effect of not participating had become very negative. Given therefore that the marketing advantage is limited and yet most universities used highly paid and qualified staff for Schools Liaison, the effect is not satisfactory for either side. Richard Lister therefore argued that, if staff involved in Schools Liaison act more as counsellors to sixth formers and their teachers, they would be serving a more useful purpose and the marketing of the university would not suffer in any way. It was noted that universities as well as schools had an interest in bridging the gap between school and university and

should help ensure that candidates were more knowledgeable and sophisticated. Although direct advertising had been successful and appropriate in the late 1970s and early 1980s, the present situation demands a more subtle approach and this is advantageous to both schools and universities ensuring that the intake is more knowledgeable and better advised than their predecessors at no extra cost to the university sector.

MEDICAL AND DENTAL SCHOOL ADMINISTRATION

Alun Roberts, Registrar and Secretary, University of Wales College of Medicine

This now permanent fixture at the CUA annual meeting has usually been devoted to Medical School administration alone. This year in the hope of attracting vast hordes of Dental School administrators to our deliberations I added this sphere of activity to the title. As it turned out the total number of participants at the session was somewhat down on the 1984 figure and there was no-one present with more than a nodding interest in dentistry. However, the provisional list of participants did include a few people from universities where there was no Medical or Dental School at all which cheered me no end. In the event they were conspicuous by their absence.

However our group, though small, continued to represent all that is finest in British University administration and it was fitting that the Lady from the Treasury chose to join our session. The bolder spirits among us took the opportunity of deploring (in the nicest possible way) the devastating effect that the national insurance provisions in the Budget would have on the already ravaged finances of Medical Schools. "Surely it's all a big mistake" we chorussed. Though the reply fell somewhat short of total reassurance the general discussion on the worrying financial position of Medical Schools was useful.

Concern was also voiced about the latest reorganisation of the NHS ("Griffiths" for short) with the appointment of seemingly all-powerful General Managers to knock the district health authorities into shape. Some, though not all, feared that the hitherto good relationships between universities and their health authorities would be damaged.

There was quite a good discussion about continuing problems over student grants and particularly the extent of the entitlement of clinical students to claim travelling expenses from LEA's for journeys to off-campus hospitals and general practices. Our colleague from the Treasury undertook to find a useful point of contact at DES - and she did. This is one of the best features of our session, that we can exchange good ideas to the benefit of all. The fact that it took me several weeks to pass on the name of the chap at the DES to those present at the session does not invalidate the basic point!

Probably the highlight of the session was a most thought-provoking talk about the new interactive teaching system at Charing Cross and Westminster Medical School, involving the installation of a closed circuit television system linking the seven hospitals serving the school. I doubt whether it crossed the minds of any of us that the system could be extended to link every hospital in London, so that all but one or two of the Medical Schools in the metropolis could be closed down overnight.

There were two disappointing things about the session. First Eric failed to involve us in a discussion on Shared Costs, a subject which he has made very much his own. Secondly we ran out of time. We had so much more to say. Perhaps we should revert to two sessions next year.

FACULTY ADMINISTRATION - MYTH OR REALITY?

B. A. Collins, Assistant Registrar, Nottingham

A slightly travel weary group of 19 people of diverse backgrounds met together for their first Conference session. It was soon established that, in addition to two overseas visitors, the functions and backgrounds of the members were extremely varied as were the Faculty structures in which they worked.

After this introduction the Chairman spoke about an exchange with Loughborough when he had swapped a job with David Wolfe for a term. He briefly described the different administrative structures in the two universities and the resulting different work patterns. He then quoted a paragraph from "Planning and Management in Universities" by Fielden and Lockwood on a recommended faculty structure comprising devolved authority for all areas of administration, not just academic.

During the discussion that followed the most interesting question was "do we need faculty administrators or faculties at all?" A rationalistic justification soon followed loosely based on the premise that if we did not exist someone would be forced to invent us. Other points included the changing nature of planning forced by cuts and contraction and the need for administrators generally to react in a pro-active (c.f. Jarratt) way if this challenge was successfully to be met.

Group members had a good chance to hear of many differing structures, responsibilities and attitudes and this very diversity lent weight to the suggestion in the title that a perfect faculty structure is a myth whereas the reality of Faculty work lies more in personal relationships and in working the existing systems.

SETTING UP AN OVERSEAS LIAISON OFFICE

D. McCallum, Assistant Registrar, Sheffield

M. Stewart, Vice President, Lawrence University, Wisconsin.

The session was made up of descriptions of the operations of two Overseas Offices, each with different functions. Dr. Stewart explained the facilities offered by his London Office to Lawrence students. The establishment of an Office within the Sheffield administration in October 1984 was then described - its background, operation and the degree to which its aims were being achieved within the first six months. Particular emphasis was placed on the need to define at an early stage an institutional academic policy in respect of overseas activities from which corresponding financial and resource allocating policies should then follow. The establishment of an administrative office with overseas responsibility was not in itself sufficient. The effectiveness of such an office's activities depended entirely upon a clearly understood consensus on the part of all members of the institution as to what the institution was trying to achieve. Particular attention was paid to the need to ensure an adequate departmental incentive scheme for enhanced recruitment. Although the Sheffield Office was not solely concerned with recruitment, this area merited particular attention in view of the recent reports in the press of the activities of UK Universities in the Far East. The adequacy of these activities and the operation of the British Council's Educational Counselling Service were briefly discussed. It was finally suggested that a vigorous overseas strategy could encourage a more general responsiveness to external needs and thereby the 'bias towards change' suggested in the UGC's Strategy document.

SECONDMENTS AND EXCHANGES

Chairman: Gerald Burke, Assistant Registrary, Cambridge

Rapporteur: Ruth Stubbersfield, Administrative Assistant, Manchester.

Nearly half of those of us who responded to the recent CUA questionnaire on training claim to be "seriously interested" in an international exchange. This session gave practical hints and tips and provided a stimulus to those of us with the serious interest to take the initiative in setting up an exchange. With the assistance of the UK International Committee, which has well-established contacts in many countries, it is not as difficult as one might imagine. Although one cannot expect foreign visits or exchanges to be without some personal cost, there are various sources of financial assistance: speakers from the British Council, Fulbright Commission and European Cultural Foundation explained the principles upon which they made awards and indicated that they would welcome more applications.

The discussion included personal accounts of those who had recently been on study visits abroad, secondments or exchanges. All were enthusiastic and stressed the benefits of their experiences, both to themselves and their institutions. With job mobility in the UK becoming more limited, an exchange provides exciting opportunities for personal and career development, difficult to match at home.

CONSUMER GUIDES

Chairman: Philip Radcliffe, Director of Communications, Manchester, (Chairman SCUIO)

Speakers: John Izbicki, Education Correspondent, Daily Telegraph
Brian Heap, Author of "Degree Course Offers"

In introducing the session the chairman sketched in the background to the emergence of "consumer guides" to universities, giving information not offered by traditional official prospectuses. They came originally from two different sources - student unions, producing Alternative Prospectuses, and Brian Heap, producing his guide to courses and admission requirements. Prospectuses had come a long way since those early days, and not only in print but on film and video. The so-called "Consumer guides" had also developed and multiplied in this period, with commercial publishers and national newspapers clambering onto the bandwagon.

John Izbicki considered prospectuses generally still dry and rather boring, though better packaged. Many universities did not have people with the ability to write. He urged improvement there and in the production of high quality, but short, videos. In reviewing the consumer guides he regarded Degree Courses as "an amazingly good value book". Applicants needed to know exactly what grades were needed for admission to a particular course at a particular institution. The CVCP should also produce one. On the matter of press coverage he urged on all universities the appointment of well-qualified information officers who know professionally what journalists needed. He warned against the well-known academics - Professor Rentaquote and Professor Noquote. He also demonstrated by dipping into his own postbag, filled by bewildered, even angry, headmasters as well as parents, the real need and anxiety and often incomprehension felt by many consumers about admissions, showing the need for guides.

Brian Heap dipped into his postbag - and into 25 years experience as an adviser to sixth formers - to show in stimulating and lively style the many problems faced by applicants, parents and teachers. He pointed out that there were 8,756 courses in the UCCA Handbook and that, to add to the confusion, many courses covering the same discipline had different titles at different places.

He was against the notion of league tables either for institutions or academic departments. There was no such place as "the best university" - perhaps only the "best" institution for a particular student. He challenged such concepts as "intellectual stimulus" and "reputation", which were often advanced in favour of certain universities and academic departments. How could they be measured? And, in any event, "reputation" was not constant.

Mr Heap traced the history of his work in the field. It was the "invention of a game called UCCA, giving people only six shots and not telling them the rules of the game" in 1966 that began it all. In 1969 he produced just 70 copies of a 12-page report, compiled from schools' information on admissions and intended simply for his colleagues in the Assotiation of Careers Advisers. Its publication was reported in the Daily Telegraph, and dubbed by John Izbizki "the first Michelin Guide to universities".

Nowadays, well-established and familiar as Degree Course Offers, his "consumer guide" uses information direct from the universities, polytechnics and other institutions," he said, "and is in that sense official."

WHAT ARE UNIVERSITY PUBLICATIONS FOR?

Joanna Motion, Information Officer, East Anglia

This session set out to examine not only what university publications are for, but what they consist of, who they are aimed at, how they have changed in recent years, and what future developments may be in store.

The changes in university publications in both quality and quantity over the last 20 years are striking. To compare a university prospectus of 1965 with one for 1985 makes the point. The time and care devoted to prospectuses are much greater; in general there has been an immense improvement in design and layout and the use of photography. The needs of the user are more clearly borne in mind although in many cases the quality of the text in prospectuses lags behind that of the presentation.

The improvement in publications has been steady with one or two events impelling a sudden jolt forwards. The most conspicuous of these was the 1981 cuts. That experience led to a profound and widespread rethinking and a consequent explosion in publications after it became apparent that universities badly needed three things: friends, independent money, and a boost to internal morale.

That date marks an upsurge in university activities in such fields as alumni affairs, overseas student recruitment, continuing education, community links, industrial liaison, etc. It also led to a greater concern for keeping staff informed about developments in their university. These activities have various forms of expression but publications are among the most significant.

The universities therefore find themselves in the ironic situation that at a time when we must be more cautious than ever about cash, we are spending increasing sums on printing, paper, design, photography, etc. and pinning considerable faith on what these can do for us.

At this point in the discussion the group put together two lists: one consisting of the possible audience a university may seek to reach through its publications. This included 25 constituencies ranging from schools to research institutes; from the local community to industries; and from its own staff and students to conference goers. The second list was made up of the publications presently put out by universities to reach this target audience. It included about 30 items and ranged from the prospectus to the annual report; from internal newsletters to posters; and from public events leaflets to Christmas cards.

Different universities have different priorities in reaching target audiences with these publications but there are some constituencies we almost all aim to speak to, and with comparable methods. The session divided up into small groups to make a detailed appraisal of the aims and effectiveness of a cross section of publications in four main areas: (a) annual reports; (b) prospectuses; (c) alumni magazines; (d) newsletters. The groups reported back their findings to the whole session and an extended discussion followed. This covered both the specific publications we examined and the trends they represented. There was general appreciation for one or two individual publications, eg the Manchester University Annual Report and the University of Kent Bulletin for former students - and a recognition of the considerable gap that exists between these leaders in the field and the generality of productions emerging from universities.

MANAGEMENT THEORY

Ian Jones, Lecturer in Educational Management, Surrey

The session was an introduction to the theories that sought to account for the way organisations functioned and the way they were managed.

It was suggested that many management courses were narrow in perspective and tended to produce solutions of limited use. They frequently failed to challenge assumptions, were frequently over-prescriptive and offered no real understanding and interpretation of practical experience. They were perhaps relying on the wrong sort of theory. Theory which sought to understand as well as to improve on the other hand could provide a conceptual framework within which practical experience could be better understood. It could provide insights into the nature of organisations and behaviour in them and open up alternative solutions which the more prescriptive course might ignore.

Much of the session consisted of a review of the main schools of theory and an account of some contemporary perspectives on organisations and their management. Over the years theorists had become increasingly scientific in their approach and were attempting to bring the methodology of science to bear on the analysis of organisations. A counter revolution had recently set in led by theorists like Thomas Greenfield who denied the very existence of organisations as such and Charles Handy who propounded the notion of the organisation of consent. It was Handy who once remarked that universities were the prototypes of the organisation of the future (to which a professor overhearing him replied, "if that be so, then God help us all").

Attention was drawn to the increasing number of writings on the university as an organisation rather than a community of scholars searching after the truth. Power and authority, goals, objectives, hierarchies, models, systems, structures, these were the key words now. The managerial revolution in the university had attracted a considerable theoretical back-up and faced with Davies and Lockwood Baldridge, Balderston, Burton Clark and so many others, Cornford and Newman had no option but to retire gracefully; their day had gone.

Finally, it was suggested that if you wanted a reliable guide to the workings of the English university and the behaviour of the actors in it you should look no further than David Lodge. A novelist he might be but he ranked with the best of theorists in providing flashes of insight which revealed the truth. Morris Zapp's amazement on his first sight in an English university of a department notice board and its crummy appendages told us more about the managerial capacity of the average department than most formal management descriptions. This was what theory at its best should be like, so that after we had read it we could say "This is how it is". We could then see what we could do to make it better.

TECHNOLOGY TRANSFER - SOME LEGAL IMPLICATIONS

Michael Coombes, Travers Smith, Braithwaite and Company

One of the first questions to be answered when considering how technology may be transferred is who owns the technology. There is obviously no general answer to this question which will apply in all cases, but the answer must be obtained before any steps can safely be taken towards committing large sums of development capital or towards, in the end, any form of exploitation of the technology involved.

I assume that most of the time the early stages in the development of technology are carried out within universities primarily as strictly academic pursuits and without any particular objective of creating ideas and techniques which may be profitably exploited. Accordingly, in contrast to the attitude that prevails in business circles, my assumption is that academics are only too pleased to communicate ideas to one another and to foster cooperation though they may not always wish to go as far as publication. This is clearly the right way to approach academic life and the results are quite manifest. However, at the point where ideas and techniques become ripe for assessment as potentially viable economic projects, influences from industry and providers of finance will tend to create restrictions on the freedom which academics normally enjoy.

I think it would be wrong to assume that the motivation behind these influences is simply greed - it is true that industrialists and financiers are likely to be interested in projects which they can see will ultimately lead to a profitable investment and it should be borne in mind that this stems from a desire not merely to be successful and to prove themselves but actually to carry out the duties which they now have in an extended statutory form. It was always recognised that directors of companies owed a duty to shareholders and to the creditors of the company concerned, but this duty has in recent years been enlarged by statute to encompass the interests of employees. Accordingly, the natural entrepreneurial and innovative spirit of forward-thinking industrialists is bound, to some extent, to be limited by these other constraints where essentially high-risk, unproven activities are concerned. Where the provision of finance is left to financiers additional problems can arise because in most cases providers of finance have to balance the portfolios of their investments to make sure that they contain a reasonable proportion of 'winners'.

I have to assume that there is no clear cut definition of the point at which academic work ceases to be undertaken for purely research and teaching purposes and achieves the characteristics which will lend themselves to exploitation as an industrial venture. It may be that the development of a commercial product cannot even be perceived in terms of a typical market so that there will be considerable hurdles to overcome in convincing traditional-minded providers of finance that there is a viable proposition.

I imagine that frequently the early stages of development will require continuing support from the university which may include a certain form of finance but perhaps more importantly will imply continuing access to facilities and other academics who are not directly involved in the project. At the point at which a project can be identified as suitable for commercial exploitation, third parties, perhaps industrial companies with whom the university in question has formed certain links, may well have invested a certain amount of development capital which itself may cause doubt as to the ownership of the technology.

The three main candidates for ownership of the technology will therefore be the academics who have been primarily engaged in the development of the ideas and techniques, the university and the providers of initial development capital who may range from central government bodies to international organisations or even individual industrial companies.

There is obviously some scope for arranging the terms of engagement of an academic by the university to ensure that the ownership question is determined as between them although I suspect that it is somewhat of the essence of research that it is impossible to predict where it will lead and in many cases there could be room for argument.

In dealing with possible claims to ownership from third parties, it would, I hope, be feasible to ensure that the terms on which any grant were obtained, whether from government or industrial or other sources, stipulated precisely what rights the provider had in the event of the fruits of the research or other development becoming commercially valuable.

Industrial companies are primarily concerned with achieving their own ends and will be keenly aware of the need to stay ahead of their competitors. There is a growing fear of the multi-national company which is able to exert considerable financial influence in many countries and this influence will extend not only to matters such as pricing but also to the way in which technology is developed or is deliberately 'left on the shelf'. In attempting to attract funds from industrial companies, I consider that it is important to know exactly on what terms the funds are made available to ensure that no proprietary rights are unwittingly created which will inhibit the future development and exploitation of technology in a manner which was not anticipated.

Once the ownership of the technology has been established as between the academics concerned, the university and any outside parties who may have contributed to initial financing, it will be necessary to choose a method for taking the development of the technology from its initial stage to a stage where it can be regarded as a possible business venture. The method of transfer will be dictated by the circumstances but will normally require a series of agreements which will cover the existing and future industrial property rights, future contributions by all parties concerned and the reversion of rights if the project does not succeed as envisaged.

There are many ways in which technology may be developed and exploited and there are various arguments for proceeding by way of joint ventures, partnerships, licensing, knowhow agreements and corporate structures. Each situation has to be looked at on its own merits having regard to its particular facets and I very much doubt if it is possible to suggest any particular approach which would be appropriate in all cases. I am concerned only with the case where an idea or technique has been developed to the point where it seems to be capable of commercial exploitation. If the idea or technique is not suitable for dealing with purely by licensing of patents or other rights, other forms of financing have to be considered.

My personal view is that a limited company is probably in most cases an ideal vehicle for achieving technology transfer. My impression is that, perhaps of necessity, academics may not find the structure of a company attractive until they examine the alternatives. One of the great virtues of academic life is that it contains a degree of freedom and flexibility which is rarely enjoyed in industry or commerce. These circumstances produce advantages but can lead to a lack of precision which could be extremely prejudicial to successful commercial or industrial enterprise. The freedom and flexibilty of academics is to some extent mirrored in the structure and approach of the university itself which will normally do its utmost to avoid creating unnecessary rules and regulations which would inhibit the growth of academic achievement.

If a technology transfer arrangement which is more complex than say a licensing agreement is proposed between one or more academics, which may also involve the university, which requires the injection of finance and may involve relations with non-financial third parties - what is the best way of organising all the relevant relationships. First let us see what these relationships amount to:-

(a) The academic(s) with the university - what will their future teaching and research commitment be - will they relinquish these or continue with them or alter them?

(b) What is the role of the university in relation to the project - will it have no further involvement - will it have a supporting and development role - will it have access to the results of further research and will it expect to obtain any reimbursement of previous investment from the commercial success which the project may ultimately attain?

(c) What is the interest of the provider of finance - if this is a financial institution it will be looking for economic rewards in the form of capital growth and return on capital employed - what form will the financing take and how are the financial objectives to be achieved?

(d) If, in addition to or instead of purely financial partners an industrial or commercial partner is introduced, what contribution will that partner make and how is it to be remunerated or restricted from taking all the benefits for itself?

All these relationships need to be considered before the proposed venture can be commenced. I believe that, whilst it probably offends the instinctive academic approach, these relationships should so far as practicable be formalised in agreements which will specify the various roles, contributions and rewards. The difficulty is that often the sums involved at the early stage are not large in absolute terms although they may be crucial to the academics in question yet the documentation required could easily become a very complex and time-consuming operation in itself. Consequently, I would suggest that it would assist universities to develop a number of standard form agreements which would be the basis for each transaction so that a package initiated by the university could, when the time is ripe, be quickly assembled for presentation to the outside institutions or industrialists.

The academics will need to ask themselves how much of their time and effort they wish to devote to the venture and whether it will provide their only source of income. They may wish to devote only a part of their energies to this particular project, leaving themselves free to pursue other activities, both within the university and elsewhere. For the purposes of persuading venture capitalists to invest in a project, there will usually need to be a form of service agreement which will define the precise scope of the effort to be contributed by the academics and

possible restrictions on their other activities. In general, the academics will need to obtain professional advice on the terms of these agreements which will, if they are based on standard forms used outside the universities, not appropriately reflect the diversity of interests which academics will normally have.

In terms of reward for effort, I consider that a company should attempt to motivate its employees as much as possible and the negotiation of commission and profits-related bonuses should, I believe, generally feature in the early discussions. Obviously limits will need to be set so that the incentive is genuine but normally there is no difficulty in arriving at the correct parameters where there is a genuine understanding of the type of market that exists for the relevant product. I can see that the parameters will not easily be set where the potential product and levels of sales which might be achieved are totally unknown quantities and I think it is essential that innovative and constructive proposals are made which recognise these particular circumstances.

There is I think a quite understandable fear on the part of academics that if they devote their energies to a company over which they do not have control, they will be restricted in the way they carry on their activities and might also be unable to achieve an adequate reward for their efforts. This would lead most academics to insist on a company being formed in which they had a controlling interest at the outset and for the foreseeable future. Quite obviously this will conflict with the ambitions of the other parties with whom relationships will be formed for the purposes of promoting and developing the activities of the company and a balance has to be found.

Bearing in mind that one of the hallmarks of university activities tends to be flexibility and cooperation and that corporate structures tend to reflect rigidity and entrenched rights, it is vital to evolve a capital structure which will be sufficiently flexible to take account of all the differing commercial interests of the parties involved over the period during which the initial relationships are supposed to subsist. It is not practicable to state what might be a generally acceptable structure but it is important to appreciate that the initial structure might need to span a period for the establishment of the company as a 'seed capital' company until it reaches the Unlisted Securities Market at which point most, if not all, of the initial features would disappear.

The kind of capital structure that I would recommend would be designed to offer a preferential return of capital to those parties which had contributed capital whilst leaving the expectation of the retention of the greatest part of the equity by the academics and their associates whose efforts had primarily given rise to the success of the company. In this context let me stress that there are many different forms of share and loan capital and I feel that there should be little difficulty in arranging a suitable structure for any particular case. It must be recognised that any structure is not foolproof and from the strictly legal point of view, no reliance could be placed on any vague expresssion of intention to rectify the position if, in the result, the outcome was not as expected. Consequently, a considerable degree of care and attention has to be paid to identifying the risk/reward ratios of the various parties involved and this pre-supposes the existence of a 'business-plan' which will take the company from its inception to perhaps its third year of existence.

This naturally brings us on to the relationships between the academics, the project company and the other relevant parties - these include the university, the venture capitalists and industrial companies who have initially or subsequently provided a degree of support, either of a financial or technological nature. Although it is probably an untenable generalisation, it seems to me that most universities and other government-funded bodies, will regard themselves as

adequately remunerated if they recover their initial investment with perhaps a reasonable adjustment for cost of funds and inflation, so that they will not usually be seeking an equity participation. However, there is obviously no reason why any university or government body should not seek an equity participation which would provide an additional potential 'profit' which would itself be useful in addressing the criteria of grants committees and other bodies whose task it is to review allocation of funds.

On the assumption that a capital structure can be evolved which will suit the competing interests of the various parties involved, it is probably helpful to consider the other advantages and disadvantages which may arise from using a limited company as the vehicle for technology transfer as opposed to other methods.

From the academic's point of view, if he has dependants, he should consider what might occur on his death. The advantage of share capital is that it is a convenient method of transferring rights following decease. Moreover, the academic should consider very carefully how he wishes the fruits of his research to be vested - for example: in the absence of any agreement to the contrary, I believe that it is still the law that a survivor of a joint partnership would acquire the entirety of the partnership assets so that it would make no sense at all for two academics to operate in partnership unless their agreement were drawn to avoid these undesirable consequences.

As regards government-sponsored schemes which include tax incentives, many are designed to create these incentives where corporate structures are implicit. There may, therefore, be situations where it will be of great advantage to the academics and the universities involved to exploit to the full the investment incentives emanating from the government and it will require considerable skill on the part of the academics and those who assist them, who will probably mainly be yourselves, to identify those situations which are most amenable to the attraction of government finance in this way.

In considering the role of the university, it is obviously impossible to give general views as to how it should attempt to participate in a corporate entity, although, from the administrative point of view, I think there may be merit in having a university holding company which would hold the shares or other securities in the project company. It will often be convenient, I think, for the University to be able to use a holding company as the contracting party in the arrangements that will be required for technology transfer in a variety of ways. There is, of course, the overriding question of the duty to deploy funds in accordance with the relevant constitution. As administrators you may find that the task of obtaining sufficient return on funds where a university-sponsored project attains commercial fulfilment is exceedingly complex. I cannot but sympathise. However, it may be important that these differing financial criteria should be separated so that a damaging conflict of interest will not arise which could inhibit the successful promotion of technology transfer.

One of the advantages of adopting a corporate structure is that it is possible to build in to it methods for dissolving the relationships which have been built up. Accordingly, there is scope for providing for the re-transfer of technology, where appropriate, and the retention by the academics of the control over what has essentially been their brainchild, even if it should not prove to be a commercial success. I would anticipate that this is an important psychological advantage and may be a real academic advantage. It must be part of the message conveyed to industry and venture capitalists that schemes emanating from universities are often at an earlier stage of development than many comparable schemes

emanating from commercial or industrial environments so that the risk factor in assessing a definitive prospect for commercial exploitation must be that much higher. If the providers of development capital accept this, they should not be unwilling to accept the notion that the academics should retain and perhaps regain control over the intellectual core of the venture in the event of lack of commercial success. Many venture capitalists will be encouraged to try and obtain perpetual rights but these will be urged on them by, perhaps, legal advisers who are taking the most cautious approach which does not properly reflect this risk factor. Academics should not be expected to have business expertise, even though they may have considerable experience of business ventures. They may well be persuaded of the commercial application of their ideas and techniques but they should not necessarily, on their own, be expected to prove them.

From this it follows for a harmonious marriage to be made between the academics and the providers of finance or industrialists there is a need to find objective 'commercial consultants' who will be experienced in providing 'low-cost' analyses of the project potential. Consequently, I see the need for experienced consultants to be invovled in providing an objective interface between the academics, the university, the venture capitalists and industry - their only incentive being to obtain a level of fee income which will be at normal market rates but in circumstances where they will be encouraged to take a small participation in equity so as to provide a degree of commitment to the ventures that they are sponsoring.

Finally, in support of the use of a corporate structure, I would briefly like to touch upon the desirability of limited liability, especially where there may be any doubt about the ramifications of product liability, and I would stress the convenience of the corporate entity as the contracting party when so may different contracts may be involved ranging from the employment of personnel or agents to long-term contracts which would be quite unsuitable for an individual to enter into, especially if he were involved in some quasi legal partnership.

There must be at some stage a difficult area regarding the conflict of interest between the univeristy and the academics. I hope it is not too naive to state that the use of a corporate structure allows for a certain detachment which may enable the academic to retain a certain freedom within the constraints imposed by any service or other agreement whilst at the same time allowing him to overcome any difficulties that he might otherwise have within the university or other institutions towards which he has responsibilities.

REPORTS ON SESSIONS SPONSORED BY THE CUA TRAINING COMMITTEE

Peter Must, Reading, Secretary, Training Committee

Committee Servicing

This double session, which was aimed at administrators with little or no experience in the field of committee servicing, was presented by John Wood, Academic Registrar at the University of East Anglia and Mike Joynson, Senior Assistant Registrar at University College, Cardiff. Through a variety of participative training materials, participants were introduced to the basic steps and principles of committee servicing to be followed before, during and after a meeting.

The sessions were over-subscribed and the evaluation forms indicated that the presentation had been very worthwhile and well received.

Time Management

This two-part session, offered at the 1983 and 1984 Conference, was again presented by its author, John Lauwerys, then Senior Assistant Secretary at Imperial College, London and now Bursar of LSE.

The basic premise of time management is that, although we cannot manufacture time, there are various strategies and techniques which allow us to get the most out of the time we have. This premise, the principles of time management, and the techniques available, were investigated through participatory exercises and group discussions.

The session was fully subscribed and participants returned evaluation forms indicating that the presentation had been very worthwhile.

Assertiveness Theory

This two-part workshop led, as in 1984, by Madeleine Jinkinson (St Mary's Hospital Medical School) and Gill Trevett (Brunel) was intended as an introduction to assertiveness theory, with the opportunity for participants to practice some inter personal communication techniques and discuss the theory.

Assertion training aims to help to maximise the effectiveness of the individual in communicating with others. Assertive behaviour has been defined as "self expression through which one stands up for one's own basic rights without violating those of others"; the objective is to communicate clearly, directly and honestly without being hostile/destructive on the one hand or submissive on the other. The assertive response is an alternative to an aggressive or a non-assertive one and the assumption of the theorists is that one can learn and practise assertive responses and can choose to use, or not to use them, dependent upon circumstances. Assertion training obviously cannot be a panacea for all the problems encountered in communicating with others but is intended as an aid to more effective, clear and satisfactory outcomes.

Evaluation by participants shows that the sessions, by giving a gentle introduction to some techniques for more effective communication, have the effect of encouraging people to enrol for longer, more intensive courses.

Interviewing Skills

This session was presented by Peter Guildford, Senior Personnel Officer at the Open University, who had developed the training exercise on which the session was based, and Peter Harding of Cranfield Institute of Technology.

Participants were asked to identify those areas of interviewing with which they were involved and then, in small groups, to identify problem areas. This provided the basis of a general analysis of the skills common to all interview situations.

Particular attention was paid to the characteristics and problems of conducting disciplinary and grievance interviews and participants were given the opportunity of practising their skills in these areas through role play, comparing their own styles with those of others by observation.

The sessions were well attended and received.

Self-Development for Administrators

Frank Ball, Personnel Officer at St George's Medical School, London, ran this single-session workshop which was well-attended and appreciated by participants. Its aim was to offer for discussion a number of methods whereby

administrators could develop their own management skills in addition to involving themselves in external training programmes.

Job Evaluation

Roy Butler, formerly Secretary of Faculties at the University of Oxford and now a management consultant, presented this double-session on methods of job evaluation assisted by Harvey Cook, Personnel Officer at Strathclyde University.

The increasing importance of developing objective criteria for evaluating job specifications and performance, brought even more sharply into focus by the Jarratt Report, was recognised by those attending. The practical advice offered was particularly valued by those professionally involved in personnel work and staff management.

Dealing with Students

John Hayward, Academic Registrar at Hull, presented this session, which uses case studies to show the variety of roles required of an administrator, the varying styles - and the dangers - and the skills required. Participants found the exercise useful and enjoyable.

Training the TraineeS

This session, presented by Cecily Giles, CVCP Administrative Training Officer, is reported elsewhere in these Proceedings.

Audio-Visual Presentation Skills

A session chaired by Frank Ball, Personnel Officer at St George's Hospital Medical School, and intended to enhance the skills of those called upon to make public presentations of information through the effective use of audio-visual aids. The audience was small but perhaps thereby better able to participate in developing their presentation skills.

CUA Training Questionnaire

This session, which was presented by Susan Hughes from Bradford University, Helen Niven from the Open University and Mike Joynson from University College, Cardiff, consisted of an introduction to the design and analysis of the training questionnaire which was circulated to all members of CUA in March, 1984. A summary was given of the conclusions which the Training Committee has drawn from the data to date together with a profile of the CUA members who responded to the questionnaire. The latter part of the session was devoted to a general discussion of participants' views not only on the results of the questionnaire but also on their general perceptions of administrative training.

CUA Publications

Boosting University Income, *Ed. J.G.Kelly.* 1984 ISBN 0 9506239 8 9. *(Price £2.99 - £2.50 to CUA members).*

Postgraduate Admissions, *Ed. J.Gaunt.* 1984 ISBN 0 947931 00 7. *(Price 50p).*

The Modern Electronic Office, *Ed. S.J.Leslett.* Proceedings of the conference held at Aston University in September 1983. ISBN 0 903703 13 0. *(Price £4.95 - price to CUA members £4.50).*

Resource Allocation in British Universities, *Ed. Michael Shattock and Gwynneth Rigby.* The report of the CUA Resource Allocation Group, published by SRHE. *(Price £9.75).*

University Administration in China. Report of a study visit to China in 1982, published jointly with the Conference of Registrars and Secretaries. ISBN 0 9506239 6 2. *(Price £2.50).*

Forecasting and University Expansion: Interim and Final Reports of a CUA Working group. *(Price £1.50 each).*

Developments in Tertiary Education in Europe and the United Kingdom, *by R.M.Mawditt. (Price £1.50).*

University Administration in North America. A supplement to the 1979 Conference Proceedings. *(Price £1.50).*

Study Visit to the USA, describing the visit of a CUA group in 1978. *(Price £1.50).*

Two European Universities, *by A.J.Dale.* A contrasting account of administrations of the Universities of Dijon and Münster. (CUA Occasional Paper No. 2). ISBN 0 9506239 3 8. ISSN 0142-2561.

Norms and Formulae in Resource Allocation, *by B J R Taylor, (CUA Occasional Paper No. 3 ISBN 0 9506239 5 4, ISSN 0142-2561. (Price £1.00).*

Guide to the Organisation of Training Activities. *(Price £1.50).*

Copies of the **Conference Proceedings** for 1985 and earlier years are also available.

These CUA publications can be obtained from the CUA Publications Officer, Room 206, Whiteknights House, The University, Reading RG6 2AH.